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The Canadian Dental Association

JOURNAL

L'Association Dentaire Canadienne

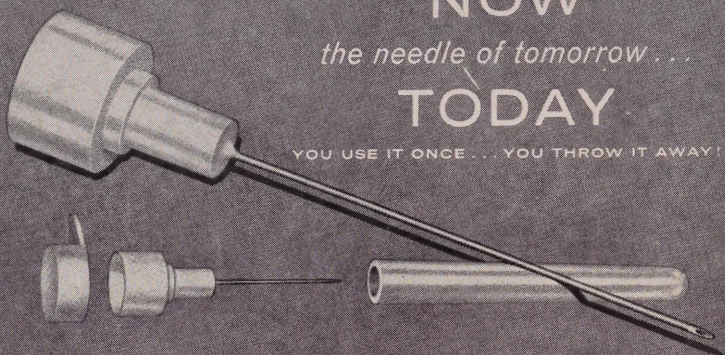
JANUARY 1960
VOLUME 26 NUMBER 1

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The Canadian Dental Association

Volume 26

Number 1

Toronto

January 1960

JOURNAL

The Role of Diet in Improving the Dental Health of Children*

H. K. BROWN, D.D.S., Ottawa, Ontario

The title of the subject assigned to this panel suggests to me the need to consider simultaneously two major points . . . the relationship of diet to the prevention and control of the major dental health problem of children, dental caries, and the educational, psychological and cultural aspects of promoting sound and attainable practices which will achieve these objectives.

FOODSTUFFS AS AN ENVIRONMENTAL FACTOR

The nature of foodstuffs taken into the mouth, quite apart from their nutritive

values, have been suspected throughout history, to be a critical factor in the initiation and progress of tooth decay. Their local effects coupled with dietary habits appear to be of greater importance in susceptibility to caries than poor nutrition. It is common knowledge that a high caries prevalence is often seen associated with what to all appearances is a good nutritional status. Local cariogenic factors of overwhelming intensity, if permitted to operate during sufficient time can over-

*Presented as a panel member before an International Conference on Dental Health at New York City, September 11th, 1959.

come the defences of teeth which have been built up and endowed with optimum resisting qualities during a period of good nutrition. It is doubtful if any tooth can resist for long a hydrogen ion concentration on its surface which can be attained by oral acidogenic bacteria provided with an adequate and persistent substrate of sweet food. On the other hand a very low prevalence has often been observed among people consuming for long periods of time a nutritionally inadequate diet.¹ Poorly formed and even grossly hypoplastic teeth, the product of poor nutrition or of some interference with metabolism or a combination of both will remain caries-free unless local oral cariogenic factors appear. If they do, such teeth disintegrate very rapidly.

THE DENTIST'S RESPONSIBILITY

The dentist, in giving dietary advice for the purpose of preventing tooth decay or of decreasing its activity has a responsibility to give proper regard to the general health of his patient by maintaining or improving his nutritional status. A good nutritional condition, essential to the building of a sound body and sound caries-resistant teeth can be established and maintained by the use of a diet which at the same time will contain a minimum of those food items or combinations which may assist in giving rise to local cariogenic factors in the mouth. It is important when advising on diet to remember that it is inseparable from nutritional considerations relating to both general and dental health, especially when the advice is designed to affect children.² The complete and long-term elimination from a diet of some item containing a number of essential food factors, one of which is cariogenic either by itself or through its association with the others, merely for the purpose of getting rid of the cariogenic factor is, to use an old expression "like throwing out the baby with the bath

water." Surely we can do a little better. If the dentist believes that some such item should be removed from the diet, he should be prepared to advise the patient concerning substitutes and to make sure that these are acceptable to the patient.

Dietary habits are psychologically related to, and in fact are a form of addiction. Often they are culture-bound. Usually they are difficult to change. The patient, young or old, must first be convinced that such alterations in his pattern of living are desirable and in his best interests. He must desire the change more than his former dietary habits; also, the possibility should not be overlooked that he may regard his particular cariogenic diet as a greater source of happiness than a caries-free dentition—particularly if he has access to a "free" dental treatment program. Sweet foods are so universally popular that even people with scientific training accept grudgingly the overwhelming evidence that the fermentation of sugar-containing foods on the tooth surface is a fundamental part of the caries process. Any lingering doubts of this should have been removed by the inability to produce caries in animals fed carbohydrates through a stomach tube,³ or in animals in which salivary fermentation was prevented by the exclusion of bacteria.⁴ If further evidence were required it has been provided by the Vipeholm study which has demonstrated that there exists an important relationship between the physical properties of sweet foods and the degree to which they are cariogenic.⁵

SOME RELEVANT RESEARCH

The research work mentioned above, coupled with certain other work, notably that by Jay on sugar⁶ and more recently that by Bibby on the caries-producing potentialities of foodstuffs,⁷ provide the dentist and others concerned with dental health education with a useful scientific basis for dietary advice designed to assist in the control of tooth decay.

The nature of research findings during recent years on the cariogenicity of sweet foodstuffs dictates the need to qualify properly any statements made. Such sweeping statements as "sugar causes tooth decay" is one which should be carefully qualified in the light of the Vipeholm and other studies in which it was shown that frequency of exposure coupled with its duration as governed by the slow solubility, the adherent qualities ("stickiness"), the frequency of eating and the rate of oral clearance of the sweet dietary item were all important inter-related factors affecting caries incidence. The ways in which these adverse components were combined, along with their timing and intensities determined the degree to which the local defensive mechanisms of the teeth and oral cavity were temporarily suppressed or overwhelmed and the caries process permitted to operate. Slowly soluble adherent sweet food (toffee) eaten frequently and between meals was shown to be highly cariogenic while an equal amount of sugar in solution eaten at infrequent intervals and during the same length of time was found to have a relatively slight cariogenic effect. This is of very practical importance when advising on the candy eating habits of children, and on the eating of sweet foods in general.

PRACTICAL SUGGESTIONS

Using a half pound of a hard "sticky" candy consisting of, say, a dozen or so pieces, it would be possible by spacing the eating periods strategically, to maintain in most mouths an active caries process during the greater part of a day.

If this amount were eaten all at one time, the exposure time of the enamel to an acid environment would be greatly reduced. Surely this suggests that where for psychological, social and other reasons it would not be practical to try to eliminate all candy or other sweets from a child's diet, other approaches might be made. For example, a "treat" time might be selected, say once a week, when a gen-

erous quantity of a fairly readily soluble candy or other sweet might be eaten in one brief period, followed by cleaning the teeth. Sweet snacks, especially of the sticky kind, between meals and at bedtime should be discouraged; sweets, if eaten, should be taken at meal-time, when the acts of drinking and of eating other foods might dilute them and interfere with their tendency to adhere to the teeth or concentrate in the pits and fissures. Also, it might be noted that this fits in with the strongly urged oral hygiene practice of cleaning the teeth after eating.

The question of less cariogenic substitutes for sticky sweet desserts and snacks presents a rather difficult problem which calls for psychological finesse as well as a good knowledge of the dietary and nutritional factors relating to caries and the cultural and social patterns involved. The variety of very tasty, sticky and attractive appearing carbohydrate confections available on the market makes it inevitable that many or most people will not be prepared to sacrifice an established pattern of gastronomic delight for the promised joys of caries-immunity. However, it is well known that there are many people, probably an increasing number, who seriously seek dietary advice to assist them in controlling tooth decay. They need guidance on the dessert and the between-meal and bedtime snack question. In their efforts to avoid sugary confections they stumble into certain pitfalls. They turn to foods and food combinations which are nutritionally excellent, and which if eaten at mealtime in other combinations would be less cariogenic than in their convenient snack forms. Among these are certain dried fruits and dried fruit combinations which, if prepared differently, eaten at mealtime or along with certain other foods which assist in hastening oral clearance or in diluting the high natural sugar content, would have a relatively low cariogenic effect.

The elimination of between-meal and bedtime snacks, particularly if they contain adhesive sweet food is an important factor in lowering caries incidence. How-

ever, it is not unusual for the snack problem to be something in the nature of an addiction — or possibly it may be part of a social or cultural pattern, such as afternoon tea. In either case the complete elimination of the snack may cost the patient more in terms of stress than he is prepared to pay. The dentist should be alert to these possibilities and be prepared to offer an effective compromise involving a degree of permissiveness acceptable to the patient. For example, in many parts of this continent a commonly used and nutritious tasty snack is a peanut butter and jam sandwich made with nice fresh adhesive white bread. This, in addition to being palatable and nutritious, produces a glutinous combination which will retain the bread and jam in contact with the teeth long enough for fermentation to occur. This is only one of several adhesive fermentable combinations in use for snacks. Substitutes are indicated here but they should be suggested without leaving the patient with the impression that the foods in question are being condemned as meal-time dietary items. One might suggest sandwiches made from whole grain bread and cheese, meat or fish. Some recent research work done in England strongly suggests that brown flour contains an anti-caries agent.⁸ This still awaits confirmation. If carbohydrates are insisted upon, one which is less glutinous and adherent than the one in use should be suggested. Most fresh raw fruits or some such crisp and cleansing food which,

in addition to having a high water content, requires chewing and has other properties which stimulate salivary secretion, are most desirable.

SUMMARY

An attempt has been made in this paper to indicate some of the research upon which dietary counselling for the control of tooth decay could be confidently based; to offer a word of caution concerning nutritional implications, and to comment on the significance of psychological, social and cultural considerations involved in any effort to achieve modifications in dietary patterns for the purpose of improving the dental health of children.

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Dept. of National Health & Welfare

"The man of science in searching for the truth must ever be guided by the cold logic of facts, and be animated by scientific imagination."

*William J. Mayo
1861-1939*

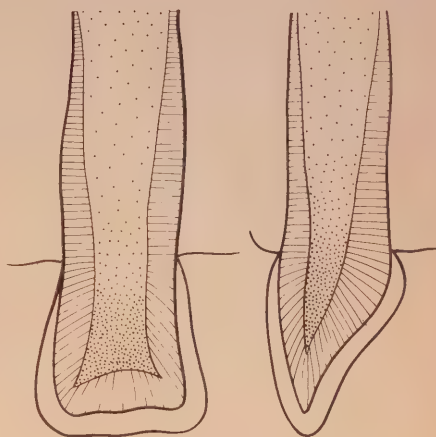
Pulp Management for the Immature Fractured Anterior Tooth

PIERRE R. DOW, B.S., D.D.S.* and THOMPSON M. LEWIS, D.D.S., M.S.D.,**
Seattle, Washington.

One of the most pathetic and perplexing problems for the dentist is the proper treatment of the immature anterior tooth which has been chipped, fractured, or avulsed. This represents, in fact, one of dentistry's few acute emergencies. In the words of Finn,¹ "Even if it means delaying a scheduled appointment, the child (with a fractured anterior tooth) should be given preference and emergency treatment should be rendered to minimize trauma. By prompt handling of the case, further injury to the pulp can be prevented."

MORPHOLOGY

The immature anterior tooth is one which has erupted into the oral cavity but has not yet fully completed its root development. Such teeth are generally found in individuals of between 7-11 years of age. Figs. 1A & 1B show both mesiodistal and labio-lingual sections of such a tooth. The apical end of the root is not fully developed and can be considered



FIGURES 1A and 1B

A: Mesio-distal section of normal immature anterior tooth. B: Labio-lingual section of normal immature anterior tooth.

as a "blunderbuss" type. Since such anatomical factors do not contribute favorably toward successful endodontics, it is therefore especially important that measures be taken to maintain pulpal vitality.

Brauer² has stated, "Although the pulps in young permanent teeth have a great recuperative power, and many of these fractured incisors can withstand great

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shock, an appreciable number terminate in devitalization if adequate protection is not afforded." "The objective of emergency treatment," according to Ellis,³ "is the reduction of the hyperemia of the pulp which follows the initial shock and the protection of the pulp against further irritation."

DIAGNOSIS

The need for treatment of a fractured anterior tooth arises abruptly. The child is usually upset and the parents may be emotionally distraught. Care must, therefore, be exercised in interpreting the parent's description of the child's condition. Only immediate examination by the dentist can determine the actual extent of the injuries.

A careful summation of the total clinical picture, supported by good roentgenograms, is extremely important in these cases. The acute nature of a fracture problem means that it may well be superimposed upon a full day's schedule, and this too often results in a hurried evaluation. Fundamentally, the evaluation of all fractures should include the following:

1. Immediate examination of the patient.
2. Appraisal of the clinical conditions associated with:
 - a. Facial soft tissue
 - b. Intraoral soft tissues
 - c. Visible dentition
 - d. Supporting dental structures.
3. Survey of the radiographs of the obviously involved structures as well as the lateral and opposing teeth.
4. Determination of any occlusal variance, extrusions or inversions.
5. Mobility testing.

Purposely omitted from this initial appointment is the taking of a vitalometer reading. Frequently teeth remain in shock for one day, one week, or longer. Vitalometer tests should, therefore, be withheld until a subsequent examination, in order that they may have validity.

CLASSIFICATION

Though most of the cases representing themselves clinically show damage of varying degree, four basic types of coronal fractures repeatedly establish themselves:

1. Fracture of the enamel only.
2. Fracture of the enamel and dentin.
3. Fracture exposing the dental pulp.
4. Extreme coronal mutilation.

FRACTURE OF THE ENAMEL ONLY

The fractured tooth with only enamel involvement (Figure 2) is frequently not hypersensitive. Any rough irregularities can be gently removed with a green stone. Chipped enamel surfaces should be cleaned with carbon tetrachloride, dried and covered with cavity varnish. Two weeks later a vitality test is taken, and a favorable response is frequently noted.

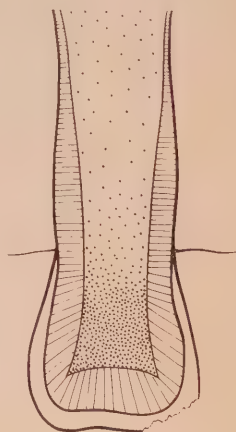


FIGURE 2

Fracture of immature anterior tooth involving enamel only.

At six month intervals, during the regular recall period for control of dental caries, the tooth should be clinically tested for color, sensitivity to percussion and vitality. Radiographs are essential if any tests prove abnormal. Normally, further dental treatment is not necessary.

All too frequently it is the tooth with a small coronal chip which has sustained the greatest trauma. This may reveal itself in the initial radiograph as a radicular fracture. Should such a condition exist and no appreciable dislocation of the parts be observed, a period of "watchful waiting" can be instituted. The situation is comparable to a "green stick" fracture of a long bone in a child. The affected tooth should be radiographed at two month intervals over the next six months. Frequently an adequate "callus" will have formed by this time. If the segments of a radicular fracture are not adjacent, then extraction becomes the wisest form of treatment.

In other instances the pulpal stimulation initiated by the trauma may produce internal resorption. Secondary dentin

proliferation may be sufficient to obliterate the root canal. Since no method has been devised to prevent the occurrence of these conditions, one must be cognizant of their appearance and conscious of any pathological conditions arising from their presence.

FRACTURE OF ENAMEL AND DENTIN

In contrast to a simple enamel fracture, the further complication of dentin exposure creates a hypersensitive tooth (Figure 3). The etiology of this sensitivity can be traced to the structure and content of the dentinal tubules. Their morphology does not present a sealed barrier to external irritants or to bacterial invasion. As well as traumatic injury, the pulp is also more susceptible to its environment.

A clean dry field should be maintained throughout the following procedure. The exposed dentin is cleaned and dried. A 1 mm. covering of calcium hydroxide is applied and dried by a flow of warm air. A preformed stainless steel crown of correct size is then trimmed, fitted and seated in place with zinc oxide and eugenol cement.

It is the firm opinion of the authors that the greatest failing in attempts at pulpal protection comes from the hurried application of crown forms, which may be esthetically pleasing, but are structurally unsound. Sedative therapy cannot be effectively applied through the use of celluloid crown forms which readily come off under normal usage. Further, the technique of cutting a labial window in a stainless temporary crown, for esthetic reasons, results only in negation of the intended purpose. Leakage and loosening of the crown frequently occurs as a result of such reduction of the overall strength.

Should the patient or his parents express any reluctance to accept the crown on the basis of appearance, the dentist

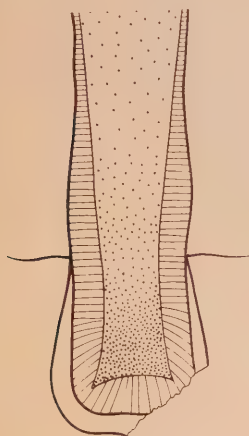


FIGURE 3

Fracture of immature anterior tooth involving enamel and dentin.

can, through proper educational preparation, greatly allay these objections. The necessity of protecting the pulp and the fact that this treatment is of a temporary nature are factors to be emphasized at this time.

After one month the patient can be re-examined as previously in Case #1, except that the crown should not be removed. It would be advisable to follow this case for a minimum of four months. The placement of a permanent restoration can be more effectively accomplished if postponed until the tooth is fully erupted.

FRACTURE EXPOSING THE DENTAL PULP

If the injury creates a pulpal exposure pinpoint in size, and is attended to immediately, there is a possibility of employing a successful pulp capping technique. When a fracture of an immature tooth, however, has caused the nerve to

become exposed, as in Figure 4, an immediate vital pulpotomy is indicated.

The predetermining element in the success of vital pulpotomy is the time interval between the pulpal exposure and the beginning of treatment. Failure increases rapidly with a protracted exposure and the inevitable bacterial invasion.

Treatment is begun by anesthetizing the tooth with a short acting, but potent, local anesthetic. Where possible, a rubber dam is placed and a sterile technique is followed throughout the pulpotomy. The coronal portion of the pulp is extirpated to the beginning of the root segment. Excessive hemorrhage is generally not a problem. Any small oozing can generally be stopped with light pressure or application of a hemostatic agent. Over the pulpal stump is placed 3-4 mm's. of calcium hydroxide. The dressing is sealed with a zinc oxyphosphate cement and the treatment is completed by the placement of a preformed stainless steel crown if necessary.

Follow up examinations should be similar to those used in the previous case. The tooth should be examined at one month, three months, and even longer if necessary to determine success. During each of these examinations the protective crown form is left in position while the condition of the gingivae, mobility and reaction to percussion are evaluated. Radiographs should be taken at three and six months.

Four months should be a minimum period of time before placement of the more permanent and esthetic restoration. Should the vital pulpotomy prove unsuccessful, endodontic therapy is the only recourse.

EXTREME CORONAL MUTILATION

In cases of extreme coronal mutilation, the choice of treatment is governed by the soundness of the root structure as well as the feasibility of restorative procedures. If conditions are favorable, an endodontic technique for management of blunderbuss

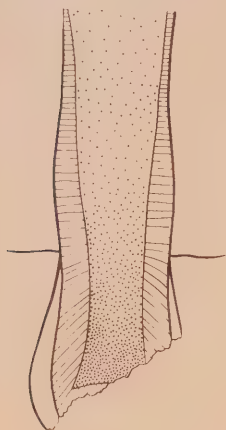


FIGURE 4

Fracture of immature anterior tooth involving the dental pulp.

canals, as advocated by Sommer⁴ should be instituted.

SUMMARY

The evaluation and treatment of fractured immature anterior teeth have been considered from the standpoint of preventing endodontic treatment. The authors feel that this can best be accomplished by

immediate, careful diagnosis and the proper use of available metal preformed crowns.

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University of Washington

100 Years of British Dental Surgery

SIR WILFRED FISH, President of the General Dental Council, London

The Royal College of Surgeons of England has been celebrating a centenary, not of the College itself, but of the L.D.S., R.C.S. (Dental Surgeon) diploma. It is just 100 years since Queen Victoria granted the Council of the College, which was already an examining body in general surgery, a Royal Charter permitting them to examine persons desirous of being so examined and to issue certificates of fitness to practise dentistry.

It was to this College in its not so prosperous days of the middle of the last century, that the pioneers of dental surgery applied for a special diploma to be established obtainable by examination conducted by the College; a diploma that should be a hallmark of proficiency in dental surgery — an art which they regarded as a specialty of general surgery.

Their request was received with mixed feelings, for the College was by no means disposed to accord recognition to any kind of specialists at all.

Through an error in tactics, or perhaps force of circumstance, these pioneers brought about a state of affairs that was the exact opposite of what they intended. They wanted to make dentistry a branch of medicine, whereas in fact they established a separate profession; for the very Charter whose centenary we celebrated this year, while it provided for an examination in dentistry to be held by the Royal College of Surgeons and for the granting of a diploma (the L.D.S., R.C.S.), also decreed that the diploma should not qualify its holder to be entered on the new Medical Register, set up by the new General Medical Council under the Medical Act of 1958.

CROSS CURRENTS, CONFUSION

It is no wonder that this led to cross currents and confusion. Here was a separate profession whose members could not be registered on the Medical Register but which, nevertheless, was controlled as to entry by the College of Surgeons. Of course, some of the dentists became Members of the College in addition to obtaining their dental licence, but it was some years before the separate College of Dentists was disbanded (in 1863) and its members absorbed into the society of those who had taken the L.D.S. of the Royal College of Surgeons.

It will, of course, be asked how such a muddle could be resolved. The answer is that it took nearly a century to straighten it out and that it got worse before it got better. When at length, in 1878, registration of dentists was established, the care of the Separate Register was also put under a medical authority—actually the Register was compiled and maintained by the General Medical Council. So dentistry, though separate, was not yet independent. In 1921 a Dental Board was set up — still under the tutelage of the General Medical Council — but at last, in 1956, a separate and autonomous General Dental Council was established and the Dental Profession is now statutorily not only separate but also quite independent.

DENTISTRY'S GAIN

So much for the confusion and cross purposes; what did dentistry gain from its association with the Royal College of Surgeons and how has the association benefited those whom dentistry serves? An apprenticeship of 100 years is of no small assistance in learning the art of living and self-government. Dentistry has learnt that the only way for any surgical

art to progress is by concentrating on the basic sciences, and this has become established practice in dental education. So ingrained has the lesson become that the Nuffield Foundation were prevailed upon to establish scholarships for those more brilliant dental students who wish to take up an academic career. By this means they are able to interrupt their dental studies and take a bachelor's degree in science before they complete their clinical course in Dentistry. This has been amazingly beneficial to dental education and research and has already produced some fine teachers, a number of whom occupy professorial chairs. It is an experiment well worth noting.

Another benefit of our long apprenticeship with the College of Surgeons is that dentists are constantly reminded of the essentially surgical nature of their work. The symposium at the Centenary Celebrations, which were held from July 22 to 24 this year, was on the cleft palate, and included a survey of both developmental factors and of the prosthetic, orthodontic and surgical procedures involved in its treatment — a perfect combination of basic science, dentistry and surgery.

GREATEST BENEFIT

But perhaps the greatest benefit of all is that we are now so closely associated with the College in this widespread brotherhood of surgery that has grown up as one of the traditional benefits of our great Commonwealth of Nations.

Twelve years ago, our apprenticeship over, we were taken on as junior partners. We got our own faculty and our own fellowship. Two years ago the Dental Faculty set up a research department of dental science to investigate the prevention of dental disease. The Odontological Museum, also established 100 years ago, now lies adjacent to the great Hunterian

collection in the magnificent new buildings in Lincoln's Inn Fields that have risen Phoenix-like from the ashes of the old burnt College that lay in ruins in 1941. The Fellowship in Dental Surgery is already known throughout the world, and last year our examiners travelled to Ceylon to hold a primary examination for the F.D.S., R.C.S. in conjunction with the primary for the F.R.C.S.

There is much to be said for such a partnership, and at the Centenary Festival

Dinner, Lord Hailsham, in congratulating our profession on its hundredth birthday, commended to us the need for more research and the desire of the Government that our efforts to encourage it should be successful. There is something to be said for administrative independence, indeed no profession would, in the long run, willingly submit to anything less, but in the unity of close association there are tremendous possibilities, and there is much to be said for the old apprenticeship system.

A Method of Management of Multiple Facial Fractures

A. E. SWANSON, D.D.S., M.S.,* Vancouver, B.C.

REPORT OF A CASE

This case of extensive facial trauma illustrates one course of management in middle third of the face fractures utilizing a crano-facial type of internal wire suspension.

SUMMARY OF HISTORY

This twenty-year-old, white, male trainee was involved in an auto accident on May 5, 1957, in which he suffered multiple injuries. The accident occurred some thirty miles from the post and the patient

was brought to the emergency room of the Out-Patient Clinic, U. S. Army Hospital, Fort Leonard Wood, Missouri. The indicated intravenous fluids were administered, appropriate x-rays ordered, and a pertinent physical examination performed.

SUMMARY OF EXAMINATION

When the patient was first seen in the clinic he presented in a semi-comatose

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state, appearing about his age of twenty years and in obvious acute distress. There was a two-inch vertical, linear laceration in the middle of the forehead. There was moderate periorbital edema O.D. The maxilla was freely movable and there was separation palpable at the right zygomatico-frontal suture and stepping at the middle of the right infraorbital margin. There was lower right facial edema and discontinuity of the inferior border of the mandible just anterior to the angle. There were multiple bruises about the face and head and extremities. The maxilla was edentulous, the mandible partially edentulous.

The neurological examination was of little value because of the state of inebriation of the patient but nothing conclusively positive could be established. The airway was not obstructed and the mild shock was corrected by the infusion of a pint of whole blood. An indwelling catheter was inserted into the bladder to insure adequate urine elimination.

SUMMARY OF X-RAY AND LABORATORY EXAMINATION

A Water's view of the skull and routine skull and mandible x-rays revealed the following fractures: (1) a depressed fracture of the outer plate of the frontal sinus (2) fracture of the right zygoma (3) transverse fracture of the maxilla (4) fracture of the mandible, right angle, with considerable displacement. There was no evidence of skull fracture. There was a molar tooth in the proximal fragment of the mandibular fracture. The chest film was within normal limits.

On admission the urinalysis was normal except for a 4 plus albuminuria. The white blood cell count was 30,500 with a differential of 90% neutrophils and 9% lymphocytes. The remainder of the laboratory findings were normal. On May 8 there again was a 4 plus albuminuria and also a rare red blood cell per high power field. The leukocytosis was down to 12,300/cu.mm. with 88% neutrophils and 12%

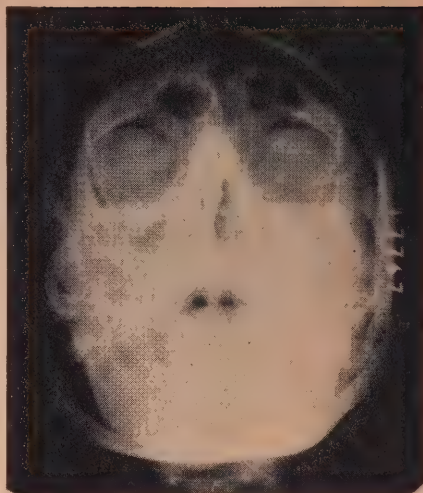


FIGURE 1

Water's view of skull showing separation of right zygomatico-frontal suture, discontinuity of the malar ridges bilaterally, and fracture of the right infraorbital ridge. Note cloudiness of both maxillary antra but more so on the right.

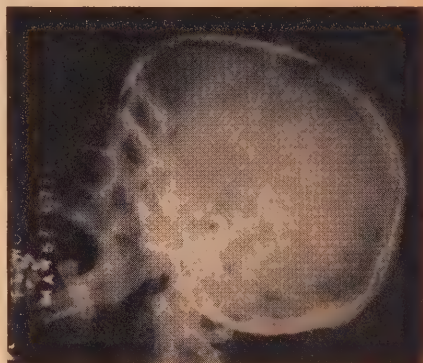


FIGURE 2

Lateral skull view showing fracture of mandible just forward of right angle with marked upward displacement of proximal fragment. The fracture of the outer plate of the frontal sinus can also be noted in this view.



FIGURE 3

P.A. view of skull showing fracture of mandible on the right. Discontinuity of the right infra-orbital ridge is again noted.



FIGURE 4

Postoperative Water's view showing stainless steel wire ligatures in place at right zygomatico-frontal suture and right mandibular angle. Also to be seen are the internal suspension wires (according to Adam's technique) running from the zygomatic process of the frontal bone to the mandibular arch bar.

lymphocytes. A repeat urinalysis on May 9 revealed similar findings.

The persistent 4 plus albuminuria prompted a medical consultation. It was thought that the albumin initially may have been on the basis of the trauma possibly inflicted upon the kidney at the time of the accident. However, when it persisted for several days it was suggested that it might be on the basis of the indwelling catheter. On May 9 the catheter was removed and on May 11 there was no albuminuria. This was substantiated by a repeat urinalysis on May 13. A blood chemistry on this same day revealed the blood urea nitrogen to be within normal limits at 10.72 mg. %.

The patient remained semi-comatose and on the seriously ill list for the first forty-eight hours and then his sensorium began to clear. He was ambulating by May 9 and taking a full liquid diet by mouth. It was apparent to the patient's family that his personality had changed somewhat since the accident. This was suggested to the medical personnel interested in the case but it was thought that this might improve as convalescence progressed.

DIAGNOSIS:

- (1) Cerebral concussion
- (2) Depressed fracture frontal sinus
- (3) Simple fracture of the right zygoma
- (4) Transverse fracture of the maxilla
- (5) Compound fracture of the mandible, right angle
- (6) Multiple abrasions and lacerations of the face and extremities.

COURSE OF TREATMENT

On May 10, under local anesthesia, a prophylactic tracheotomy was performed by the general surgeon collaborating on the case. It was felt that this was advis-

able since it would be necessary to wire the jaws tightly together in the operating room and there was some concern as to the preservation of the airway in the immediate postoperative period.

On May 13, in the Hospital Dental Clinic, under local anesthesia using 2% xylocaine, a Jelenko arch bar was wired to the remaining lower teeth.

On the morning of May 14 the patient was taken to the operating room where, under general anesthesia using nitrous oxide and oxygen via the tracheotomy tube and intravenous 2.5% sodium pentothal and 0.1% anectine drip, an open reduction of the fractured right zygoma and the right mandibular angle as well as cranio-mandibular suspension utilizing the Adam's internal wiring technique, were performed.

OPERATION

With the patient situated in the supine position on the operating table, he was prepared and draped in the usual sterile manner. Local anesthetic consisting of 2% xylocaine containing epinephrine in a concentration of one to one hundred thousand was injected into the area of the right mandibular angle for purposes of hemostasis. An incision was made below and parallel to the inferior border of the mandible in the right angle region. By a combination of sharp and blunt dissection the inferior border of the mandible was exposed. The external maxillary artery and anterior facial vein were identified and had to be ligated and divided. The fracture site was exposed revealing the proximal fragment to be kicked up considerably lateral to the distal fragment. After sufficient reflection of the periosteum from both fragments, Kocher forceps were applied and the fracture was manually reduced. This resulted in good alignment. A drill hole was made on either side of the fracture line and a length of #22 gauge wire was passed through these holes in figure eight fashion and secured snugly. The soft tissues were closed using



FIGURE 5

Postoperative lateral jaw view showing wire ligature holding proximal and distal mandibular fragments in good alignment. In this case the molar in the proximal fragment was retained in the line of fracture in order to take advantage of its acting as a stop to its upward displacement. The tracheotomy tube is in position.

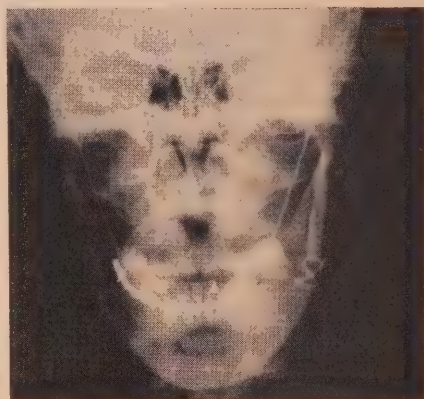


FIGURE 6

Postoperative P.A. view of mandible showing cranio-mandibular wiring and wire ligature at right mandibular angle fracture.

4-0 plain gut for the subcutaneous tissues and 5-0 Dermalon for the skin.

The field was then moved to the right eyebrow area. After injection of local anesthetic for purposes of hemostasis, an incision was made about one inch long along the lateral portion of the eyebrow. After sharp dissection, the lateral margin of the orbit was exposed and the discontinuity of the zygomatico-frontal suture was in view. By means of a zygoma hook and a periosteal elevator upward and outward traction was applied. A drill hole was placed on either side of the fracture line and a length of #25 gauge stainless steel wire was passed through these holes and ligated securely. Reduction and immobilization of this fracture appeared satisfactory. A second and longer length of this same wire was then passed through the superior hole, that is, the hole situated in the zygomatic process of the frontal bone, and then turned to one side. A #13 gauge aneurysm needle was then passed via the incision, beneath the zygomatic arch and into the oral cavity about opposite the first molar. The two ends of the length of wire previously turned aside were then passed through this needle into the mouth and then the needle itself was drawn through the soft tissues and into and out of the mouth. This same procedure was followed in the area of the left eyebrow. The patient's maxillary full denture was inserted and by means of upward pressure on the mandible, a reasonably good semblance of satisfactory occlusion was established. The wires running from the frontal bone were then ligated to the mandibular arch bar in the bicuspid region. The orbital margin wounds were then closed using 4-0 plain gut for the subcutaneous tissues and 5-0 Dermalon for the skin. A pressure dressing was applied to the right mandibular wound. The tracheotomy tube was replaced, the patient suctioned, and he left the operating room in good condition.

Postoperative orders included penicillin and streptomycin coverage as well as suitable analgesics for pain control. The patient's postoperative course appeared to

be within normal limits in its initial stages. On the first postoperative day the patient was able to take most of a full liquid diet. Intake and urinary output were satisfactory. Forty-eight hours after operation the pressure dressing was removed. On the third postoperative day alternate sutures were removed from all wounds. Five days postoperatively the remaining sutures were removed and all wounds appeared to be healing satisfactorily. By this time both nurses and doctors began to notice a certain lethargic, negative, indifferent attitude in our patient. It appeared that there was some blunting of the affect.

Postoperative x-rays showed satisfactory reduction of all fractures.

FURTHER COURSE

The remainder of the course of hospitalization was perfectly normal so far as the fracture treatment was concerned. However, there gradually blossomed forth a personality change which made the custodial care somewhat of a problem. He described consistently a hypersensitivity to noise and his ward was changed in order to minimize this feature. He once described going to the latrine at 3:00 A.M. and falling down with a sudden loosening of a bluish liver-like clot from his nose. He was not injured and he returned to his bed without further incident. There were no witnesses. One other such incident of momentary loss of consciousness was reported. He persisted in complaining of pain all over his head whenever noise occurred near him.

At 1:00 P.M. on May 18 the patient was found lying by the side of the road adjacent to one of the hospital ramps. He was unresponsive and uncommunicative. His eyes were open and moving. He moved all his extremities. He was rushed immediately to the emergency ward. Vital signs were within normal limits. Neurological and eye examinations were nega-

tive. At approximately 4:30 P.M. the patient became re-oriented. He had complete amnesia for the previous twenty-four hours. He was still confused about certain facts. A provisional diagnosis of post-traumatic seizure or expanding intracranial lesion was made and the patient was put on close observation with frequent recording of his vital signs ordered. They remained normal. On May 20, two days later, the patient could recall all the details of his episode and claimed that as he was walking in the sun that day he suddenly felt dizzy and faint.

On June 7 the patient was seen on referral by the neuropsychiatric consultant. His written report, in part, follows:

"Complaints of memory impairment, change in personality, and belligerency when stressed are commonly seen in organic impairment. His mental examination with impairment of memory and

abstraction and lack of schizophrenic symptoms also goes along with this diagnosis. Psychometric tests show moderate evidence of organic impairment. Diagnosis: Nonpsychotic mental disorder with demonstrable physical etiology."

Six weeks after operation all wires and bars were removed. Function appeared to be completely satisfactory and within three days the patient was able to take a full regular diet with ease. However, he was shortly evacuated to a large general hospital for Medical Board consideration of discharge.

SUMMARY

A case of multiple facial fractures, including the diagnosis, surgical management and certain interesting sequelae, is presented.

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EDITORIAL

En Garde!

It is most gratifying to see large health organizations such as the American Dental Association condemning the false and misleading advertising of dentrifices. Unless such advertising is radically modified to convey truth and fact, even the innocent and honest producers will become suspect in the eyes of the profession and the public.

Apparently truth and fact are no longer essential ingredients of advertising. In the September 1959 issue of *Consumer Reports*, the sickening persistence of advertising was described. In a fifteen hour day an American family was exposed to one thousand five hundred and eighteen advertisements. It is little wonder in the face of this avalanche of salesmanship that occasionally even the most robust resistance will falter.

All manufacturers must sell their products to make money. Some manufacturers have good and honest products and are willing to produce and advertise them honestly. But there are many producers whose wares are just ordinary or inferior who blatantly announce their products employing every available technique and adjective in the process.

Basically, our economy seems hinged

to rapid and assured obsolescence. If a product gives more than minimum service, it is considered bad for our economy and certainly undesirable to the manufacturer. There is no denying the latter observation and by the constant repetition of the economic necessity of built-in obsolescence, perhaps we will all begin to believe this as well. If we allow ourselves to sit back and accept lack of quality and truth as inescapable economic necessities we will continue to be bombarded by half truths and double entendre.

Total acceptance of this situation would be sheer nonsense. The only defence necessary against misleading advertising and deficient products is common sense. The success of unscrupulous advertising will always depend upon the credulity of the consumer and the cunning of the advertiser. You do not have to listen or read, you do not have to believe and you do not have to buy. Against this natural resistance and reasoning power, prominent individuals admirably trained in psychology, blight themselves and their profession by selling their knowledge to manufacturers and advertisers. Intensive studies are constantly in progress to determine where and why the consumer is

weakest in his resistance to buying. Once a vulnerable spot is determined then every effort is made to widen this breach in the armour of intelligent resistance in the hope that we will buy in spite of ourselves. This spurious method has been used so effectively that some products have been acquired before their use has been fully determined by the purchaser.

No area of consumer need is unexploited. Certain motor car manufacturers produce huge frail and tawdry machines incapable of anything but murderous speeds and rapid depreciation, and then brazenly tell us—this is what you want. Until recently they have succeeded because this was all we could buy. Now however well constructed sensibly sized foreign cars, perhaps produced out of economic necessity are available to us. The public showing that it will not be fooled all of the time is patronizing these markets until our domestic producers offer a reasonable alternative. Some day surely safety and durability will be the two main considerations in the manufacturing of automobiles.

It is impossible to think of some product associated with any phase of living that is not lacking in quality and dependability. The most offensive instances of misleading advertising are to be found in the health fields. For years many unscrupulous advertisers have made distorted claims for their products carefully employing half truths and quasi facts—just enough to stay within the law. The most continuously noxious example of harmful misrepresentation in dentistry is seen in the advertising of dentifrices. Every gimmick and ploy imaginable has been attempted in an effort to sway the judgement of the hapless buyer. The most commonplace of these is the attempt to credit to a specific product, the benefits

that accrue from normal mouth hygiene procedures. Regrettably the usual public inference is that these benefits can be derived only from certain products. Wonder chemicals and drugs (all top secret of course) together with varying colour schemes and tastes are continually coming to light and fading. Relating a product to a current research project in dentistry, whether there could be any valid relationship or not, is another method often tried.

The willingness of manufacturers and advertisers to falsify claims or at least to distort and confuse their claims, has led to a situation where each new product is suspect. The manufacturers and advertisers are being hoist with their own petard. They are at a loss for new adjectives and the consumers having been taken in so many times before are no longer impressed.

This may yet lead to an ironic paradox where a product is developed that is truly better or different and of benefit to the public and yet no one will believe the advertising. There will be weeping and wailing in manufactureville, but it will take years of honest production and advertising before a wary public will again believe and buy with confidence. Meanwhile to safeguard the public, professional organizations will continue to combat false claims and will shy away from associating their good names with any product in any way whatsoever.

Perhaps the public's apathetic interest in the benefits of the fluoridation of communal water supplies is in some way rooted in their bitter aversion to advertising and their scepticism of all new claims.

Good products honestly presented will always be available. How the consumer will separate the wheat from the chaff will depend upon the integrity of the advertisers.

BOOK REVIEW

Essential of Removable Partial Denture Prosthesis—Prepared by: O. C. Applegate, D.D.S., D.D.Sc., F.A.C.D. Published by: W. B. Saunders Co. Pages 364, 453 illustrations. Price \$14.00.

Professor Applegate has been a well known teacher in the field of partial denture prosthesis for many years at both the undergraduate and Post-Graduate level. His book is essentially readable and practical and as such it should be of great help to the dental student and to the practising dentist who may wish to re-examine his thinking and practice in this very important subject.

This is the second edition and the lay-out and the text have been improved. Some 453 illustrations are very clear and well co-ordinated with the text.

Dr. Applegate has paid particular attention to the oral examination, diagnosis, treat-

ment planning and mouth preparation for a partial denture. New, are three chapters which deal with the use of reversible hydrocolloids, alginates and Thiokols (rubber base) materials used for obtaining impressions. While precision attachments are briefly but favourably mentioned the reviewer regrets that the importance of this attachment and its use has not been given the attention it deserves.

In his preface the author states "A principal aim of this work is to supply the accumulated information on this subject in an orderly and easily related manner", and this has been achieved. Important points are listed clearly and the discussion of these points is usually lucid and brief so that their impact stays with the reader. This is a better book in the field of Removable Partial Denture Prosthesis.

O. J. Yule

THE LIBRARY

ADDITIONS

BRAESTRUP, C. B. & WYCKOFF, H.O. Radiation protection. Springfield, C. C. Thomas, 1958. 361 p. Tables and figures. \$11.50.

DENTAL CLINICS OF NORTH AMERICA, November, 1959. Symposium on office oral surgery. Edward C. Hinds, consulting editor. Philadelphia, Saunders, 1959. Pages 591-826. Illus.

DEPARTMENT OF NATIONAL DEFENCE, OTTAWA. Manual of the Canadian Forces Medical Service in the field. Prepared under the Direction of the Surgeon General, Canadian Forces, 1959. 324 p. illus.

JEPSON, R. P. & CATCHPOLE, B.N. An introduction to surgery for dental students. London, The English Universities Press Ltd., 1959. 166 p. illus. \$3.80.

MOYERS, R. E. & Jay, P. Orthodontics in mid-century; transactions of a workshop in orthodontics, June 16-21, 1958. St. Louis, Mosby, 1959. 344 p. illus. \$8.75.

PACK, G. T. & ARIEL, I.M. Editors. Treatment of cancer and allied diseases, 2nd ed. Vol. III: Tumors of the head and neck. New York, Paul B. Hoeber, Inc., Medical Book Dept. of Harper & Brothers, 1959. 781 p. illus. \$30.00.

PETERSON, D. & McCREARY, J. F. Pediatrics. Montreal, Lippincott, 1956. 654 p. illus. \$14.00.

POLLOCK, M. I. The assistant's role in the dental profession. Toronto, National Refining Co., Limited. 1959.

THE CANADIAN DENTAL ASSOCIATION ANNUAL CONVENTION OTTAWA, CANADA

SEPTEMBER 25 to 28, 1960

PRELIMINARY PROGRAMME

OPERATIVE DENTISTRY
Course by Miles R. Markley
D.D.S., F.A.C.D.
Denver, Colorado

The Rt. Hon. John Diefenbaker,
Prime Minister of Canada,
Luncheon Address

DIAGNOSIS
Course by Donald Kerr
D.D.S., F.A.C.D.
University of Michigan

Tours of National Capital District

ORTHODONTICS
Course by Jacob A. Salzmann
D.D.S., F.A.C.D.
New York, N.Y.

Reception Sunday evening in the new home
of the National Gallery of Canada

MANPOWER IN DENTISTRY
Panel Discussion
Moderator—Dr. W. G. McIntosh
Panelists—Dr. R. G. Ellis
Dr. J. W. Neilson
Dr. J. McCutcheon
Dr. W. J. Dunn

President's Dinner

SCIENTIFIC DISPLAYS AND DEMONSTRATIONS
University of Alberta
University of Manitoba
University of Toronto
University of Montreal
McGill University
Dalhousie University
Royal Canadian Dental Corps
U. S. Naval Dental School
Government of Canada, Dept. of National
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National Convention of the Canadian Dental Association

Canadian Dental Association,
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OTTAWA, ONTARIO,
September 25-28, 1960

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ADDRESS

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CANADIAN DENTAL ASSOCIATION RETIREMENT SAVINGS PLAN

Statement of Unit Valuations as of November 30, 1959

GOVERNMENT BOND FUND

Investments at market value	\$ 45,789.45
Accrued income (interest)	192.36
Cash on deposit	55.80
TOTAL	\$ 46,037.61
Less: Administration fee— $\frac{1}{8}$ of 1% of \$46,037.61	57.54
TOTAL MARKET VALUE	\$ 45,980.07
Units outstanding	4,803.944
UNIT VALUE OF FUND	\$ 9.571

CORPORATE BOND FUND

Investments at market value	\$106,327.51
Accrued income (interest)	508.19
Cash on deposit	16.05
	(DR)
TOTAL	\$106,819.65
Less: Administration fee— $\frac{1}{8}$ of 1% of \$106,819.65	133.52
TOTAL MARKET VALUE	\$106,686.13
Units outstanding	10,555.929
UNIT VALUE OF FUND	\$ 10.106

COMMON STOCK FUND

Investments at market value	\$210,054.24
Accrued income (interest)	—
Cash on deposit	451.42
	(DR)
TOTAL	\$209,602.82
Less: Administration fee— $\frac{1}{8}$ of 1% of \$209,602.82	262.00
TOTAL MARKET VALUE	\$209,340.82
Units outstanding	17,633.689
UNIT VALUE OF FUND	\$ 11.871

Trustee: The Royal Trust Company

Information about the C.D.A. Retirement Savings Plan is available from Mr. J. T. Staddon, 2249 Yonge St., Toronto 7, Ont. Telephone HU. 1-5731.

THE ASSOCIATION

Toronto Dental Building Opened

About 2,000 people attended opening ceremonies of the new Faculty of Dentistry building at the University of Toronto on November 25. The dental building is probably the largest and most modern instructional and dental research centre.

At a special convocation, honorary Doctor of Laws degrees were conferred on Willard C. Fleming, Dean of the Faculty of Dentistry at the University of California, Martin A. Rushton, Professor of Dental Medicine, University of London, and Arnold D. A. Mason, Dean Emeritus of the Toronto dental faculty.

Addressing the convocation, Dr. Fleming called on universities to produce the men—undergraduates, graduates and teachers—to match their modern buildings and to keep in step with changing times.

Years of planning by Dean Roy Ellis and his staff culminated in the dedication, by Ontario Premier Leslie Frost, of the modern five-story, \$6,000,000 structure containing almost \$2,000,000 worth of equipment. The new school will be capable of graduating about 124 students per year, compared with 74 last year.

C.D.A. President on Tour

Dr. W. G. McIntosh, C.D.A. President, addressed the luncheon meeting of the Academy of Dentistry, Toronto, on November 26th. About 700 people attended, on the occasion of the Academy's annual one-day Winter Clinic.

Later the same day, the President and Secretary left for Montreal, first stop on the annual President's Visitation to eastern Canada. Dr. McIntosh spoke to dental students at McGill University and the University of Montreal on Friday, November 27th and to the Board of the College of Dental Surgeons in the evening. Other visits were at Saint John, Charlottetown, Halifax, Quebec and Trois Rivières.

Visits of the President and Secretary to western provinces begin at Saskatoon on February 22.

P.R. Committee Reports

An attractive new booklet "A guide to professional relations with the public" has been prepared by the Public Relations committee and distributed to all C.D.A. members. This publication features sections directed to individual dentists, dental societies and news people. A booklet of this type was requested by the Board of Governors.

In answer to a request from the Executive, the committee's main effort this year is directed toward development of student recruitment efforts and to recommend future action.

Establishment of local emergency dental services across Canada will be promoted and means are being sought to inform the membership about the many and varied functions of the Association.

Congress of Infantile Odontology

The Columbian Society of Infantile Odontology invites Canadian representation at the First Pan American Congress of Infantile Odontology. The Congress will be held in Bogota, February 21-27, 1960.

Information is obtainable by writing La Sociedad Columbiana de Odontopediatria, Carrera 13 No. 41-58, Bogota, Columbia.

New Fluoridation Folder

A new folder, "Fluoridation — Nature's Method to Prevent Tooth Decay," has been prepared by the Dental Public Health Committee, this pamphlet is now available from C.D.A. Headquarters at a price of \$1.65 per hundred.

Taxation Statistics

Average income of Canadian dentists who filed income-tax returns for 1957 was \$10,234, up almost 11% from \$9,230 in 1956. Average income tax paid by dentists was \$1,690, compared with \$1,452 in 1956.

This information is reported in the latest issue of "Taxation Statistics," annual publication of the Department of Internal Revenue.

In the table showing incomes by occupations, dentists again ranked below consulting engineers and architects, medical doctors and surgeons, lawyers and notaries, and accountants.

According to the report, 27.8% of dentists earned between \$10,000 and \$15,000 in 1956, compared with 24.7% in this category for 1955. In 1956, 11.7% exceeded \$15,000 and 54% (64% in 1955) reportedly earned less than \$10,000.

	No.	Av. Income	(1956)	Av. Tax	(1956)
Consulting Engineers and Architects	22,029	\$14,581	(13,640)	\$3,616	(3,312)
Medical Doctors & Surgeons	11,755	13,978	(13,053)	2,905	(2,729)
Lawyers & Notaries	6,110	13,244	(12,617)	2,955	(2,905)
Accountants	3,184	10,879	(9,940)	2,110	(1,881)
Dentists	3,756	10,234	(9,230)	1,690	(1,452)
Investors	85,664	6,233	(6,021)	928	(882)

TV Ads Also 'Rigged'

The American Dental Association is continuing its campaign against false advertising claims of dentifrices. Dr. Harold Hillenbrand, A.D.A. Secretary, recently charged that TV commercials for dentifrices are just as "rigged" as some programs have been found to be.

Dr. Hillenbrand branded as "misleading and detrimental to the dental health of the public" advertising claims for dentifrices on TV as well as in printed media. Rather than encouraging better dental hygiene, he contended much current advertising discourages proper care. The A.D.A. has called for legislation to permit federal agencies to control false advertising.

THE CORPS

Civil Defence Conference

Brigadier K. M. Baird, Director General of Dental Services and Major J. C. Brick of his staff attended the Emergency Health Services National Conference at the Canadian Civil Defence College Arnprior, Ontario from November 16th to 18th. During the conference Brigadier Baird attended the 10th

annual meeting of the Defence Medical and Dental Services Advisory Board.

Surgeon Generals Conference

Colonel H. L. Harris of the Directorate of Dental Services represented the Director of Dental Services at the Surgeon Generals Conference held at Camp Borden, Ontario, December 1st and 2nd. The conference dealt mainly with National Survival training.

Retirement Major B. J. H. Marchant

Army Headquarters has announced the retirement of Major B. J. H. Marchant, Commanding Officer No. 1 Dental Equipment Depot, Ottawa, Ont.

Major Marchant is a native of Montreal, Que. He enrolled in the R.C.D.C. as a Private in October 1939 and has served continuously. He was commissioned as a Second Lieutenant in July 1942, promoted to Lieutenant in August 1942, to Captain in February 1943 and promoted to Major and appointed Commanding Officer No. 1 Dental Equipment Depot in April 1957. His post war appointments include tours as Quartermaster No. 12 Dental Company R.C.D.C. in Halifax, N.S., Adjutant and Quartermaster of No. 27 Field Dental Unit in Germany and Stores Officer at the Directorate of Dental Services at Army Headquarters in Ottawa.

Major Marchant is married and has five children. He has a son attending St. Jean Military College, St. Jean, Que. On retirement Major and Mrs. Marchant will reside in Ottawa.

Captain A. W. Brusso Promoted

Army Headquarters has announced the promotion of Captain A. W. Brusso to the rank of Major and his appointment as Commanding Officer No. 1 Dental Equipment Depot effective 1st January 1960.

Major Brusso was born in Didsbury, Alberta. He enrolled in the R.C.D.C. as a Private in January 1940. He was commissioned as a Lieutenant Quartermaster in December 1944 and promoted Captain in July 1945. Following service in Canada and the United Kingdom during the Second World War his appointments include tours as Quartermaster No. 13 Company R.C.D.C. Trenton, Ontario, Stores Officer at the Directorate of Dental Services Army Headquarters, Ottawa, Ontario and second in command of No. 1 Dental Equipment Depot in Ottawa.

Major Brusso is married and has two children.

Courses

Major L. R. Pierce of Aylmer, Ontario attended a short course in Oral Surgery at the University of Michigan November 30th to December 11th, 1959.

Captain Dombowsky Returns from Overseas

Capt. L. Dombowsky of Claybank, Saskatchewan recently returned to Canada after serving with No. 4 Field Dental Company in Germany for two years. He has been posted to No. 13 Company R.C.D.C. Trenton, Ont.

Postings in Canada

The following postings have taken place recently:

Major P. H. Guevremont — To H.M.C.S. "Bonaventure", Halifax, N.S. from R.C.A.F. Station St. Hubert, Que., effective 5th January 1960.

Capt. R. Lanthier — To Calgary Garrison, Calgary, Alta., from Griesbach Barracks, Edmonton, Alta., effective 9th November 1959.

Major A. R. Ramsey to R.C.A.F. Station, St. Hubert, Que., from H.M.C.S. "Bonaventure", Halifax, N.S., effective 19th December 1959.

Captain D. A. Warrick to R.C.A.F. Station, Camp Borden, Ont. from R.C.A.F. Station, Clinton, Ont., effective 2nd November 1959.

Annual Meeting

The Twelfth Annual Meeting of the Royal Canadian Dental Corps Association was held in Ottawa from October 29, 30 and 31, 1959.

Officers elected for 1960:

Honorary Presidents, Brig. E. M. Wansbrough, Ottawa, Ont. and Col. J. P. Whyte, Swift Current, Sask.; Past-President, Lt.-Col. J. L. Warriner, Winnipeg, Manitoba; President, Lt.-Col. N. L. Simon, Hamilton, Ont.; President-Elect, Lt.-Col. J. S. Goodfellow, Calgary, Alta.; 1st Vice-President, Lt.-Col. W. G. Campbell, Winnipeg, Man.; 2nd Vice-President, Lt.-Col. C. E. Woods, Ottawa, Ont.; Secretary, Col. C. B. Climo, Ottawa, Ont. and Treasurer, Col. Hugh McLaren, Ottawa, Ont.

Life Members elected:

Lt.-Col. M. M. McDougall, Lt.-Col. H. S. Locke, Col. F. R. Drewry, Col. L. E. Kent, Col. C. L. Strachan, Lt.-Col. J. L. Warriner, Lt.-Col. J. L. B. Roop, Lt.-Col. I. G. MacKenzie, Lt.-Col. F. C. Fennell, Lt.-Col. N. L. Simon, Col. D. W. Henry, Col. J. E. Merritt, Col. T. J. S. Cooke, Col. J. P. Whyte, Lt.-Col. C. M. Johnson and Lt.-Col. J. S. Goodfellow.

Major-General A. E. Wrinch outlined the Army's role in National Survival.

Delegates from all R.C.D.C. (Militia) Units in Canada attended the Meeting.

THE PROVINCES

ALBERTA

C.S.D.C. Alberta Chapter

The Alberta Chapter of the Canadian Society of Dentistry for Children held their first meeting of the year at the Banff Springs Hotel on May 31 and June 1.

We were indeed fortunate to have two top men in the field of Pedodontics as our featured speakers. Dr. Gordon Nikiforuk spoke on "Highlights in Children's Dentistry," while Dr. Maury Massler gave a very enlightening address entitled "The Skin of Your Teeth," and also discussed a new approach to caries control. Drs. B. Haryett and C. R. Castaldi from the University of Alberta also gave enthusiastic presentations.

The second meeting of the year was held at the Palliser Hotel in Calgary. Dr. Michael Cohen spoke to the group on "Prophylactic Orthodontics for the General Practitioner" and "Periodontal Disturbances in Children," at which time he discussed a new approach to Pulp Therapy for deciduous teeth.

Dr. G. K. Minty was returned as President and Dr. A. G. Kluzak as Secretary-Treasurer for the following year. The membership for our group presently stands at fifty-two.

A.G.K.

BRITISH COLUMBIA

Vancouver and District Dental Society

Dental materials formed the subject of two lectures given by Dr. Ralph W. Phillips of the Indiana School of Dentistry on November 3.

He dealt with the current status of resins, rubber base and silicone impression materials, and the behaviour of filling materials in sealing cavity preparations and preventing

bacterial invasion. Discussed also were the human factors which enter into success or failure in restorative dentistry.

Over two years ago the dentists of the Lower Mainland established a 24-hour emergency service, at that time the only one of its kind in Canada. The plan is still in successful operation.

A patient unable to secure dental treatment phones the "Dental Emergency Service" number and the nurse in charge directs him to a volunteer dentist.

During the past year there were 1,265 calls, an average of 105 per month.

Meetings of the Victoria Dental Society

The fall meetings began with a panel of speakers from the local medical society. Dr. David Boyd, a pediatrician, reviewed the care of children, outlining in particular the use of antibiotics, proper diet and effective premedication of different patients. Dr. Kemble Greenwood, a dermatologist, spoke on current attitudes toward focal infection and gave enlightenment about allergies, especially those to local anaesthetics and methyl methacrylate. Dr. Ted Rose, an internist, reviewed the care of the patient's with specific conditions, e.g., heart, kidney and diabetes. He summed up the topic of radiation, to which each speaker contributed.

The speaker at the October meeting was Dr. Don Marshall of Vancouver who presented slides with a comprehensive lecture on oral diagnosis.

November 16 had been marked off in appointment books from Oak Bay to Campbell River in anticipation of a slightly different meeting. Instead of just a dinner meeting, at 2 p.m. there was a series of talks and movies by Dr. Merrill Swenson, head of the prosthetic department at the University of Oregon. Guests were the officers from the dental corps at Naden and members of the Upper Island Dental Society.

Interior Dental Society

The fall convention of the Interior Dental Society was held in Penticton on October 24.

Dr. D. A. Anderson of Vancouver addressed the morning session on periodontics

for the general practitioner. He spoke directly of the problems encountered in daily practice and his timely tips and colored slides were enthusiastically received.

In the afternoon Dr. C. R. Hallman spoke on full denture prosthesis, covering many of the pertinent points in regard to the presentation of denture service and dentures to the patient. Although speaking to general practitioners, Dr. Hallman suggested that each dentist take a day sometime in the near future and do a complete upper and lower denture to the point of processing without laboratory assistance.

New officers elected for 1960 are: President, Dr. Bert Letham, Salmon Arm; Secretary, Dr. Don Hicks, Kamloops; Directors, Dr. W. A. McIver, Penticton; Dr. H. J. Phillips, Vernon; Dr. R. B. Emslie, Kelowna.

The position of dentists in relation to the hospital in Kamloops is finally being straightened out. There is now a "dental service staff" which is quite similar to the medical staff. Any dentist who wants to work in the hospital makes application to be admitted to this staff. Various classifications of oral and dental surgery have been outlined, and the applicant states what classification he wishes. A combined committee of the medical staff and the dental services staff look into his record and decide whether or not he will be allowed to practise in that classification.

D.H.M.

MANITOBA

Children's Dental Health Week

The Manitoba Children's Dental Health Week for 1959 was held from October 24th to the 31st. As in the past the organization and planning started many months before with the selection of the committee members and assigning them their respective duties.

We have had three such programs in Manitoba and in each case the Manitoba Department of Health and Public Welfare and the Manitoba Dental Association have been co-sponsors.

The Manitoba Dental Association allows this project a budget of \$3,000.00. This money

represents a very high percentage of the Association's total annual budget and is one of our most costly undertakings. The Department of Health contributes as much or more in actual cash outlay and in addition they supply almost all the clerical help and other similar services that the Association cannot afford.

Co-chairman, Dr. Ralph Connor, the Director of Dental Services of the Department of Health and Mrs. K. Peschel and staff spent many hours to ensure the success of our program.

The program was once again one which stressed prevention rather than treatment and here again we felt that our best results would be obtainable by directing our efforts to schools and school children.

Dr. Ralph Connor directed the program in regard to the rural schools and Dr. Cliff McCormick was in charge of the school program in Greater Winnipeg.

Manitoba was divided into seven school districts and a dentist was appointed to act as a chairman in each district.

A poster and essay contest was designed so that all school children in grades 1 to 9 inclusive were included and competing for prizes. The poster contest was for grades 1 to 3 and one essay contest for grades 4 to 6 and another essay contest for grades 7 to 9. There were three prizes awarded in each district, a total of 21 prizes in all and they ranged from dolls and meccano sets to skates and bicycles. Dr. Monty Shapera spent many office hours selecting these prizes at a price we could afford to pay. The total cost was about \$900. To each teacher having a winner in her room we presented a \$10.00 gift certificate suggesting that it be used to purchase something for the school library or in any other manner she thought appropriate. Over 6,000 kits were prepared and one sent to each school room in the grades mentioned. These kits contained all pertinent information and directions for entering the contests. Each district chairman was responsible for appointing judges and selecting the winners in his area.

The Provincial Department of Education gave their approval of this entire program.

Dr. Louis Green, for the third time, with the appearance of Dr. Jack Burshtein took charge of the radio and television committee. Here again planning played a very important part. We have found that these organizations are more than willing to help, providing you supply them with material. A great deal of time and effort was expended to supply them with spot announcements, etc., and flip cards and slides for television. Mr. Ralph Wedeborn of Public Health Education, Department of Health and his very able assistant Miss Gladys Adams were very

helpful in organizing and distributing dental material supplied by the Dental Bureau. This material was assembled in a compact form and sent to all radio stations in Manitoba and the two television stations, one in Winnipeg and one in Brandon.

Dr. H. Fast of Altona, Manitoba arranged for a radio discussion group in his area and Dr. Connor and Dr. Bill Harwood of Brandon took part in a panel discussion over the Brandon T. V. station. Dr. Connor was also interviewed on a Dauphin radio station re dental health.

Dr. M. Cohen, of Boston, Mass., a pedodontist and the guest speaker at the Winnipeg Dental Society Meeting was interviewed on the Winnipeg T. V. station.

The Art department of the Department of Health designed a billboard poster and space was leased throughout the province—9 signs in Winnipeg and in other country points such as, Portage La Prairie, The Pas, Dauphin, Flin Flon, Transcona, Selkirk and Brandon.

The lights of the Winnipeg City Hall were also used to publicize our program.

The Modern Dairies with branches in Winnipeg and several country points again gave us a panel on their milk carton and these went into 120,000 homes in Manitoba every day for the entire week.

The city and rural newspapers were supplied with cuts and material for covering stories on some aspect of dental health.

Posters and banners were distributed to all members of the Retail Druggists Association and to all members of the Retail Merchants Association.

Place mats were designed and 50,000 of them were prominently displayed in many of the restaurants in Manitoba.

Some nine house journals, industrial newsletters and periodicals were supplied with copy on Dental Health.

Where requested, talks were given to Home and School, etc., by dentists.

Conclusions and Recommendations

1. Gain approval of the Department of Education and Department of Health, so that they can inform their members in their official publication. (this was done)
2. Select a time in the school year when there will be a minimum amount of interference or interruption of their regular class room schedule.
3. Secure teacher co-operation in any such contest, design something that can be made a part of their regular school work rather than something that will require extra time. The personal contact of principal and teachers is desirable.
4. The press, radio and television industries

should be adequately briefed at the top level and given material prepared by those competent to prepare such material.

5. We feel that any Dental Health program to be successful must have some continuity. The annual program is needed for its impact but some way must be found to continue this in a weekly or monthly basis from year to year. (Planning is now in progress for this, by the Department of Public Health Committee.)

6. Contest more successful in rural areas—urban centers more difficult to get teacher co-operation.

7. Lastly and most important, a National Dental Health Program should be started, and the sooner the better. The undertaking on a provincial level is too onerous for the area covered. The same planning and programming organized in each province at the same time and with the work load distributed between provinces, could perhaps produce a more effective program.

F. W. Jones

Winnipeg Dental Society

The initial meeting of the Winnipeg Dental Society for 1959-'60 was held October 26th at the Royal Alexandra Hotel. The clinician was Dr. M. Cohen from Tufts University in Boston, who spoke on Pedodontics. Children's Dental Health Week sponsored by the Manitoba Dental Association started October 26th and Dr. Cohen, being a nationally known authority on children's dentistry, was brought in by the Society to help foster interest in this project. Following the clinical meeting, he was interviewed on television and promoted the ideas behind the health week to the general public.

Dr. Cohen, rather than concentrating merely on the operative side of his subject, covered many of the other aspects of dealing with children. Such problems as developmental disorders, periodontal disturbances in childhood and prophylactic orthodontic tooth guidance were discussed and treatments suggested. On behalf of the Society, Dr. Gordon Campbell eloquently thanked the speaker at the conclusion of the presentation.

Dr. C. Rusen, the Society Clinic Chairman, capably handled all the necessary arrangements for the clinical program, and the Society President, Dr. J. P. Beattie presided over the noon business meeting. During the meeting several new members of the Society were introduced and particular mention made of Dr. Marguerite Neelands as the lone active member of her sex now in the Society. Dr. Marvin Wolch, the retiring golf chairman reported a relatively successful

summer of Society golf activities culminating in the usual hand-out of prizes to everybody at the wind-up. However, the top prize was honestly won with a fine score by Dave McCord who just beat out Dr. A. Shinoff.

Immediately following the Society business meeting, the Manitoba Dental Association conducted a special meeting dealing with its new group liability insurance program. Dr. John Abra, the Association President, chaired the meeting which was primarily held to answer any questions re this new group. Manitoba has associated itself with Ontario and Alberta in this group coverage and is looking forward to the time when even more of the provincial associations will join the amalgamation. The R.C.D.S. of Ontario is certainly to be thanked for its leadership in the investigation into, and the institution of, this type of broad insurance coverage for its members and for extending the advantages of its large membership group rating to other smaller provincial groups.

The November Society meeting featured a format which undoubtedly will become a regular part of the Society's clinical program. The Faculty of Dentistry, through the courtesy of Dean Neilson, provided two of its associated professors, Dr. Z. Kasloff and Dr. F. J. Marshall to present clinics to the meeting. This is one further example of the splendid co-operation there exists between the new school and the local professional group. At the same time it gave the Society members a chance to meet and to evaluate the men who will play such an important role in the education of our dental students.

Dr. Kasloff spoke mainly on Dental Materials and it is much to his credit that he was able to present this rather dry subject matter in a manner which held the interest and appreciation of all of the members present.

Dr. Marshall's field is Endodontics and he presented a well-thought-out plan of approach to this too often neglected part of dental service. Both men, as a courtesy to the Society, outlined the respective courses as they intend to teach them to the students. These outlines left no doubt that the highest of professional standards are going to be maintained at our newest dental school.

Dr. J. Snidal and Dr. A. Shinoff thanked the speakers, and made presentations to them on behalf of the whole Society.

J.P.B.

New Dental Fraternity

A pledging ceremony for charter members in October inaugurated a dental fraternity

chapter of the University of Manitoba.

Dr. David L. Dyen of Philadelphia, president of the Alpha Omega Fraternity and its 8,000 membership in Canada, U. S. and Israel, took part in the ceremonies at the Fort Garry Hotel.

ONTARIO

International Association for Dental Research

A paper entitled *The Effects of Strontium 90 on Teeth and Jaws* by Professor M. A. Rushton, M.A., B.Ch., F.D.S.R.C.S., Odont. D., LL.D., was presented in the Faculty of Dentistry, University of Toronto, November 24, 1959, under the sponsorship of the School of Graduate Studies and the Toronto Chapter of the International Association for Dental Research. It summarized a series of experiments dealing with the effects on the teeth and jaws, of administering large doses of strontium 90 (up to 1000 microcuries/Kgm.) to rabbits. It was pointed out, that because of the very high doses given the animals, these results could not be interpreted as being similar to effects produced by strontium 90 in fallout.

Radioautographs and stained histologic preparations were used in the study. It was found that administration of the strontium 90 was followed in the animals by cessation of tooth eruption, filling in of the pulp cavities, a relative overgrowth of 'cementum', and, in later stages, the development of osteogenic sarcomas.

K. J. P.

Dental Technicians Elect Secretary

Mr. Charles Goodall, 362 Bessborough Dr., Toronto 17 has been appointed Secretary of the Governing Board of Dental Technicians of Ontario. In this capacity Mr. Goodall will be responsible to the Governing Board for the administration of the Act Respecting Dental Technicians.

Mr. Goodall has had extensive experience in the dental laboratory industry. He is a former Chairman of the Governing Board, Past-President of the Dental Laboratories Association of Ontario, and a Past-President of the Toronto Study Club of Dental Technicians.

Dental Health Day in Ontario

February 3rd 1960 will be designated as Dental Health Day in Ontario. Dental Health Day will provide an opportunity to focus attention on dental disease, the most prevalent continuing health problem. It serves to point out to the public the means that are available for the control and prevention of dental disease, and to promote community action in support of these measures.

Dental Health Day is sponsored in Ontario by the Dental Public Health Committee of the Ontario Dental Association in co-operation with the Health League of Canada. It occurs annually on the Wednesday of National Health Week, the first week of February. The effectiveness of this Dental Health Day program will depend to a large extent upon the active participation of the members of local dental societies.

Each of the more than thirty dental societies in Ontario has received a precis containing suggestions on promoting Dental Health Day. The precis suggests forming a local committee of other than dental agencies with the dental society serving in an advisory capacity. It also contains suggestions for press releases, radio and television announcements, the approach to national advertisers, advice on public addresses, organizing civic lunches, developing exhibits and conducting school programs.

The Dental Public Health Committee of the Ontario Dental Association prepares articles for provincial periodicals such as pharmacy journals, labour journals, service club bulletins, and others. It also has developed a "flyer" stating "Good Teeth for Good Health". It is hoped that this flyer will be displayed in every drug store window in Ontario. Radio scripts on dental health have been sent to every station in Ontario along with spot announcements. Sound on film strips and slides with scripts are in the hands of T.V. stations.

Dental Health Day means Dental Public Health in action.
K. F. Pownall

Kingston & District Dental Society

Dr. R. L. Villard of Kingston, was elected president of the Kingston and District Dental Society at a meeting held recently.

Executive members elected at the meeting are: Dr. R. E. Werry, Dr. D. P. Hult, Dr. R. J. Marshall, Dr. J. P. Morgan, all of Kingston, and Dr. A. E. Fyffe of Napanee.

The guest speaker was Dr. J. Coupland, Eastern Ontario representative on the board

of the Royal College of Dental Surgeons of Ontario. Twenty-three dentists attended the meeting at which the past president, Dr. R. E. Feasby presided.

St. Apollonia

A stained glass window which is 1,100 years old is in the possession of Mr. George Morgan of Haileybury, Ontario. The window in blue, black and yellow-green glass commemorates ancient tooth extraction and is from an ancient monastery near Abergavenny in south Wales. It has been in the Morgan family for 141 years and was presented to George by his father, Charles Bird Morgan, 87, a retired mining engineer living in Sault Ste. Marie.

Measuring 30 inches by 10 inches, the window was designed and set into a wall of a chapel for the Welsy abbey about 878 A.D. It commemorates a woman of earlier ages who invented a process for extracting teeth. She was canonized as St. Apollonia.

The central figure of the priceless treasure is St. Apollonia holding a book in one hand, and in the other a device gripping a tooth. The design was burned into the glass by a process which defies removal by the strongest acids, and the glass is leaded and rough in surface.

For generations the window was viewed by monks who worshipped in the chapel, but in the 17th century, when Oliver Cromwell and his men were campaigning, the monks were fearful that their art treasures would be destroyed. They covered the window with white paint and as time passed it was forgotten.

The monastery became a school—Mr. Morgan's great-grandmother was educated there—and the chapel became a Protestant church. Early in the 19th century Dr. C. Gwynne Bird, an ancestor of Mr. Morgan purchased the window from a contractor who was renovating the church. Dr. Bird came to Canada in 1835, and the window was restored in Montreal and given its present border of blue glass. Dr. Bird settled in Bowmanville and when he died bequeathed it to his son, Dr. Charles Bird. He in turn passed it to William Morgan, a one-time Hamilton alderman, who was the grandfather of the new owner.

George Morgan says he plans to have the ancient relic appraised by experts of the Royal Ontario Museum, but it is not for sale. Terms of the agreement under which he received it stipulate that it must stay in the Morgan family.

QUEBEC

Montreal Dental Club

The first combined meeting of the Dental Societies of Montreal was held on the afternoon and evening of November 23, 1959 at the Queen Elizabeth hotel. At this inaugural event, members of the Montreal Dental Club, the Mount Royal Dental Society and the Société dentaire de Montréal joined to hear a prominent teacher in the profession of Dentistry.

The afternoon session began at 3.00 P.M. with Dr. D. C. Gordon, president of the Montreal Dental Club, welcoming the members and introducing the guest speaker. Our clinician was Arthur H. Morrison, D.D.S., Professor and Chairman of the Department of Operative Dentistry, New York University College of Dentistry. Dr. Morrison's presentation dealt with the "Principles and Evaluation of Newer Methods of Tooth Structure Removal." In his afternoon lecture he gave an "Evaluation of Equipment" and also a "Discussion of Fundamentals in Rotary Instrumentation." Dr. Morrison summarized the value of ultra high speed instrumentation in dentistry as follows. There is a decrease in the number and size of tools used. Excessive pressure is eliminated, as is heat and vibration. There is more favourable patient reaction with the new equipment as well as less fatigue for the operator. The improved effectiveness of the instrument in cutting tooth structure allows more economical work.

At 5.30 P.M. there was a break to allow old friends to get together and new friendships to be made. This was followed by dinner at 6.00 P.M.

Dr. Morrison's evening lecture began at 8.00 P.M. and was entitled "Percentage Evaluation of Various Methods of Instrumentation." With the aid of a viewgraph projector he demonstrated a chart comparing the methods of tooth structure removal (various speeds, Airbrasive and Ultrasonics) with the optimum criteria (effectiveness and comfort) of such an instrument. The results indicated that the air turbine holds a very slight margin over the ultra high speed belt driven handpiece. However, Dr. Morrison made it plain that there is still much room for improvement in the development of a method of tooth structure removal.

The executives of the three dental societies were gratified by the turnout and enthusiasm of the members. For their part, congratulations are extended for the planning and organization that went into this joint

meeting. It is hoped that many more combined meetings will take place in the future.
J. D. F.

Montreal Alumni Chapter Alpha Omega Fraternity

On Thursday evening, November 19, 1959, the Arthur S. Solomon Memorial Lectures were held at Ruby Foo's restaurant. This evening was dedicated to the memory of Dr. A. S. Solomon who gave so much of his time and effort to aid young graduates in the practice of dentistry.

The clinicians for the evening were Drs. Hershel Bernstein and Herbert Ptack.

Dr. Bernstein, who recently returned from an internship at Albert Einstein Hospital in Philadelphia, described the replantation of three maxillary incisors. The technique of replacing three accidentally evulsed anterior teeth after endodontic therapy was well illustrated by means of slides and X-rays. Follow up of this case was carried through to show the foreign-body reaction to the teeth.

Dr. Ptack described the procedure in an extensive full mouth rehabilitation that was started during his post-graduate course in Crown and Bridge under Dr. Tylman in Chicago. The case was well illustrated with slides of all the various steps to the completion of the case.

The speakers were thanked by Dr. George Silver who prefaced his remarks with a critique of each presentation. M. G.

SASKATCHEWAN

Saskatoon Dental Society

Guest speaker at the regular meeting was Dr. A. Stephen, Director of the MacNeill. He chose as his subject "Failures of Civilization in the Handling of Children." He stated that all behaviors of an individual has a cause to be of such a type. In diagnosing the cause for the behavior of a so called maladjusted child—use is made of the method of play of that particular individual. From this study one can frequently determine the attitude of the child and learn the cause of his or her reactions.

Dr. Stephen spoke at length on the reasons that punishment was the wrong treatment for delinquency. L. D. H.

GENERAL NEWS

Sound Advice for Dental Health Day.

There is enough information today about dental caries (decay) to justify the statement that no child need ever lose a tooth from decay.

This hopeful message for parents was issued by Dr. Paul H. Jeserich, president of the American Dental Association, as he heralded approach of the 1960 observance of National Children's Dental Health Week Feb. 7-13.

Dr. Jeserich said that some dentists currently in practice may live to see the day when dental caries joins typhoid, smallpox and other preventable diseases that have been conquered by scientists.

The dental profession, Dr. Jeserich pointed out, has realized almost from its beginning that the best solution of the nation's dental disease problem lies in prevention.

He emphasized that the profession's chief concern is prevention of dental disease in children, and the Association's activities in this area center around the annual observance of National Children's Dental Health Week.

Instilling sound precepts of dental health education at an early age is basic, Dr. Jeserich declared, if the Association is to achieve its aim of a population free of much of the dental disease that besets the country today.

The dental executive asserted there is little excuse for the "appalling" rate of dental disease among children.

This rate, he continued, can be reduced drastically by routine home procedures coupled with regular dental care.

Dr. Jeserich listed four basic steps which the Association believes "can insure a better start along the road to life-long dental health for children":

- Proper use of the toothbrush immediately after meals and snacks starting after all the primary teeth have erupted.

- A balanced diet low in sugar-containing foods, especially adherent confections.

- Early and regular dental treatment aimed at controlling and preventing dental disorders.

- Fluoridation of community water supplies or in rural areas application by a dentist of a fluoride solution to children's teeth to prevent dental decay.

Des Moines Starts Fluoridation after 8 Years of Promotion.

Des Moines, capital city of Iowa, has started fluoridation of its water supply after eight years of promotion by dentists, Iowa State Department of Health and other agencies. Des Moines' water plant also furnished water to neighbouring towns of Urbandale, Windsor Heights, Clive and Pleasant Hill. There are approximately 234,000 water users in the five communities.

Prescription Insurance

Insurance against the cost of prescriptions is now held by about 600 families in Santa Clara County, Calif. Subscribers pay a 75c monthly premium per family, pay no additional charge above premium for required drugs. It's the first major drug prepayment plan to be tested under the auspices of a state pharmaceutical association.

Safety Questioned

Three Baylor U. researchers, writing in the Journal of AMA, said "much more" knowledge is needed about oral polio vaccine before it can be considered safe. They said safety tests performed in different laboratories are in "serious disagreement" about the degree of attenuation of the viruses.

Calorie Cravers

Residents of Ireland rate as the world's biggest eaters, having a daily per-capita intake of 3,510. Americans rate sixth (behind Denmark, New Zealand, Switzerland, Australia) with a per-capita calorie intake of 3,100 daily.

New NIDR Building 20 per cent Complete

The new research laboratories of the National Institute of Dental Research has reached the stage of 20 per cent completion. Target for finishing construction is spring of 1961.

The \$3,700,000 structure, located in the southwest section of the National Institutes of Health reservation at Bethesda, Md., will provide about 27,000 square feet of laboratory space. Its five floors and two basements will accommodate approximately 200 researchers.

Fluoridation must be decided by Scientific Community: Dr. Hillenbrand.

Dr. Harold Hillenbrand, secretary of the A.D.A. told Norwegian dentists Oct. 16 in Oslo that "artificial fluoridation of community water supplies cannot be decided by plebiscite, but must be subject to scientific and professional decision." Speaking at the 75th anniversary meeting of the Norwegian Dental Association, Dr. Hillenbrand outlined some of the problems that have developed in the U. S. in connection with fluoridation. Despite the widespread and relatively quick acceptance of fluoridation, he noted there still is "a vocal, organized, fanatic, unreasoned and unreasoning opposition to the fluoridation of water supplies appearing in almost every country in which fluoridation is initiated or proposed." He cited various charges used against fluoridation and said they have been proved unfounded. The evidence supporting use of Salk vaccine, Dr. Hillenbrand declared, is relatively small when compared with evidence which supports safety and usefulness of fluoridation.

Glaucoma Study

Persons over 40 should be examined for glaucoma at every physical examination, five Memphis, Tenn., physicians said. Their two-year study of 13,155 persons found 271 cases of subclinical glaucoma not under treatment. More than 6% of residents of one home for the aged had the disease. The study was reported in the Oct. 24 Journal of AMA.

Bone

If part of a child's jawbone must be removed by surgery, it will grow back spontaneously if a portion of membrane surrounding the bone can be left intact, according to Drs. Louis T. Byars and William E. Schatten of St. Louis. They told a meeting of the American Society of Plastic and Reconstructive Surgery that similar bone regeneration is not likely to occur in adults. Their report was based on three operations on children for removal of tumors of the lower jaw.

Safety Belts

Ford is the only auto maker offering factory-installed seat belts as an option in '60 models. American Motors will install fixtures for seat-belt attachments and Chrysler Corp. will show dealers where belts can be installed. An industry official says "there is still no sales appeal in safety."

New Zealand City Announces Victory For Fluoridation

The minister of health has announced that in Hastings, the first New Zealand city to fluoridate water, there has been a spectacular increase in the number of young children suffering no dental decay. The dental examinations were carried out by the dental research officer of the Medical Research Council.

A comparison of the results of this inspection with those carried out from September to November, 1954, showed extensive reductions in the prevalence of dental decay in the 4½ years since the town began fluoridation of its water supply.

The improvement was most pronounced among younger children whose teeth have been formed during the period of fluoridation, but there has also been substantial reduction in dental decay among older children.

The children examined have lived permanently in Hastings since fluoridation began and are known to have drunk fluoridated water throughout the period.

USPHS reports predicts further decline in Dentist-Population Ratio.

The ratio of dentists to population in the United States will continue to decline during the next 15 years. This prediction is made in a new report issued by U. S. Public Health Service called Health Manpower Source Book, Section 9: Physicians, Dentists, Nurses. The report sees a ratio of about 50 dentists per 100,000 persons in 1975 compared with 62 per 10,000 in 1940 and 57 in 1958. U. S. dental schools are expected to graduate 3,470 dentists per year by 1964. To regain the current dentist-population ratio by 1975, the report cites need for an additional 2,700 graduates by that year. The schools graduated 3,083 dentists during academic year 1957-58.

NADL accepts ADA offer to confer on Laboratory Program.

Pres. Paul H. Jeserich, Ann Arbor, Mich., has invited representatives of National Association of Dental Laboratories to confer with proper ADA agencies early in 1960 regarding development of a dental laboratory recognition program at state or national level. He issued the invitation Oct. 16 in a speech before NADL's house of delegates during the organization's ninth annual meeting in Miami Beach. The NADL house agreed unanimously to accept the invitation. Two reasons were given by Dr. Jeserich for the delay since 1957 in conferring on the laboratory program:

Need for giving priority to development of the certification and education program for dental laboratory technicians.

Initiation in the spring of 1957 of a federal grand jury study of certain aspects of relations between the dental profession and the dental laboratory group.

Dr. Jeserich said it would be a "serious error" for the two groups to pursue different approaches to a laboratory recognition program. In his speech, ADA president traced development of the certification and education program for dental laboratory technicians and labeled as satisfactory progress made during first stages of the program. In other action, the NADL house gave unanimous support to the policy position opposing public denturist legislation adopted by ADA House of Delegates at the recent centennial session.

Meeting on Clinical Trials of Dental Drugs set for March in Chicago.

A conference on clinical trials of dental drugs will be held March 16, 1960, in the auditorium of the American Hospital Association building, 840 N. Lake Shore Drive, Chicago. The conference will be sponsored jointly by Council on Dental Therapeutics and other ADA agencies as well as American Association of Dental Schools. Primary purpose of the meeting is to provide the Council with the best basis for evaluating drugs considered in its acceptance program, according to Dr. J. Roy Doty, Council secretary. He said it also may provide a definite set of principles for the guidance of manufacturers who wish to determine the usefulness of their drugs in dentistry, increase the number of dental investigators with competence in the area of clinical trials and encourage a critical attitude that may result in more effective use of drug and treatment proce-

dures in dentistry. Participants in the conference will include representatives of dental schools and related institutions as well as manufacturers and distributors of drugs used in dentistry. Among the speakers will be Drs. I. B. Bender, Neal Chilton, Sidney Epstein, R. M. Grainger, Stanley C. Harris (Ph.D.), Thomas J. Hill, Frank J. Orland, Floyd D. Ostrander and David Weisberger. Moderators will be Drs. Lester W. Burket, Philadelphia, chairman of the Council on Dental Therapeutics, and Dr. Harry Lyons, Richmond, dean of the School of Dentistry, Medical College of Virginia.

Deans to attend November Meeting on Dental School Administration.

Deans of 43 of the 47 U. S. dental schools are expected to attend a Conference on Dental School Administration being sponsored by the American Association of Dental Schools Nov. 6-8 at Camelback Inn, Phoenix, Ariz. Opening session of the conference will be developed to four major papers, starting with a keynote address on "The Human Element in Administration" by Dr. Herbert E. Longenecker, vice-president of Chicago Professional Colleges, University of Illinois. Papers designed to set the stage for discussions that will follow during workshop sessions then will be presented on the three major areas selected for consideration during the conference. The three speakers will be Dr. Raymond J. Nagle, dean, New York University College of Dentistry, who will discuss "Administrative Problems and Policies of the Dental School"; Dr. Harold J. Noyes, dean, University of Oregon School of Dentistry, "Operational Problems and Policies of the Dental School," and Dr. Willard C. Fleming, dean, University of California School of Dentistry, "Public Relations, Alumni, and Recruitment."

Persons 15-24 years old visit dentist most often, monograph reveals.

Young persons 15-24 years of age visited the dentist more often on the average than any other age group during the year ending June, 1958. This information is contained in a 43-page monograph issued by the U. S. Public Health Service's National Health Survey called "Children and Youth: Selected Health Characteristics." Children 5-14 years of age had a somewhat lower rate of dental visits than the 15-24 year category but averaged more visits than adults. Babies and preschool children made very few visits. The

monograph—available for 35 cents from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D.C.—presents other dental findings such as these:

'Fillings' most prevalent

"Fillings" was the largest single type of service provided during the dental visits of persons in each age group. About half of the visits of children 5-14 years old and young persons 15-24 involved this type of service as compared with 37 per cent for adults. "Extractions" was a relatively more important service for persons 15 years of age and over than for children less than 15. "Teeth straightening" was reported principally for persons in the 5-14 and 15-24 age groups.

Interval since last visit told

While children 5-14 and young persons 15-24 years of age averaged about two visits to the dentist during the year, about half of the people in these age groups had not visited the dentist at all during the 12-month period prior to the interview. About one-quarter of those 5-14 and one-tenth of those 15-24 never had been to a dentist.

Young women average more visits

While the rates of dental visits were much the same for boys and girls less than 15 years old, this was not the case for young persons in the 15-24 year age group. Young women in this category visited the dentist more frequently than young men. Dental care during pregnancy is suggested as a reason for the difference.

City children average more visits

Rates of dental visits among school-age children and young people living in urban areas

were higher than among their rural-nonfarm counterparts. Rates for rural-nonfarm children and youths in turn were higher than for children and youths living on farms.

Income factor cited

Substantial differences in rates of dental visits occurred between two family income groups in which \$4,000 was the dividing line. In the 5-14 year age group, children in families with incomes \$4,000 and more had a rate of dental visits three times that for children in families with lower incomes. Young persons in higher income families visited the dentist at a rate of 1.7 times that for those in lower income families.

X-Ray machine being used in study at Illinois College of Dentistry.

The first large-scale research use of a dental x-ray machine capable of taking a single ear-to-ear picture of teeth is being made at University of Illinois College of Dentistry, Chicago. The machine, produced by a London manufacturer, is somewhat similar to one developed at the National Bureau of Standards in co-operation with the U. S. Air Force School of Aviation Medicine and stems from work of Dr. J. V. Paatero of University of Finland, Helsinki. It is to be used in a five-year \$118,676 study of changes in bone structure in the mouth. These changes will be followed over a four-year period of study expected to involve some 1,200 students at the University's Professional Colleges. The machine takes a single photograph of all the teeth and bone structure similar to that taken by an extremely wide-angle lens in ordinary photography. To do this, patient and machine are rotated in opposite directions in the same plane. The study, being financed by the National Institutes of Health, also is expected to show other applications of the machine in dentistry.

Most men lead lives of quiet desperation.

Thoreau.

IN MEMORIAM

Robert Hitchcock Ferguson — Dr. Robert Hitchcock Ferguson of Ayr, Ontario, died November 27, 1959.

Dr. Ferguson was born at Wolfe Island in 1898. He received his early education at Kingston and Queen's University and graduated from the R.C.D.S. in 1924.

He was a member of the Young Men's Club of Kitchener and was school dental officer with the Board of Health at Kitchener for thirty years. During the First World War he served with the Second Siege Battery R. C. Artillery and in the Second World War, with R.C.D.C at Halifax.

Whilst at the University of Toronto Dr. Ferguson was with the team that won the Grey Cup in 1920.

He is survived by his widow, Mabel, two sons, Robert and Peter; his mother, Mrs. T. H. Ferguson; a sister, Mary and a brother, Herman.

Allen John Sipes—Dr. Allen John Sipes of Vancouver, B.C., died in November, 1959.

He was born in Blair, Ontario in 1892, and graduated from the R.C.D.S. in 1914.

Clarence John Orton—Dr. Clarence John Orton of Swift Current, Sask., died on October 31st. He was 53.

Born in Yellow Grass, Dr. Orton graduated from the University of Toronto in 1932. He was a past lieutenant-governor of division No. 4 of the Kiwanis of Western Canada district; past noble grand, IOOF Swift Current Lodge; past grand master, the Grand Lodge of the Jurisdiction of Saskatchewan; member of the session of the First United Church; past president and honorary life member of the Swift Current Curling Club; past president of the central home and school club and of the Swift Current home and school council; past chairman of the Swift Current musical festival, past chairman of the Boy Scouts group committee, troop No. 5, United Church and past president of the Liberal Association of the Saskatchewan electoral district of Swift Current.

Surviving are his widow, Jean; three daughters, Katherine, Dawna and Mary Ann; one son, John; his mother, Mrs. Anna Orton, one sister, Mrs. R. Hendrickson, and one brother, Donald.

John Gould Leonard — Dr. John Gould Leonard of Saint John, N.B., died on November 16th, 1959. He was 72.

Dr. Leonard was born in Saint John of Loyalist descent and received his early education in the local schools. In 1906 he graduated from the Louisville Dental College, Louisville, Kentucky and after practising for a few years in Frankfort, Kentucky, moved to Fredericton and then to Saint John where he remained until his retirement in 1957.

Dr. Leonard was an Honorary Member of the New Brunswick Dental Society and was a past master of Albion Lodge, AF and AM Saint John.

He is survived by his widow, Jennie, one son, John; two daughters, Mrs. W. A. Ruddock, and Mrs. R. J. Squibb; three brothers, Walter, Charles, George, and two sisters, Mrs. L. M. Farquhar and Mrs. R. C. Emery.

William Christian Kelly — Dr. William Christian Kelly of Windsor, Ontario, died in September, 1959.

Dr. Kelly graduated from the R.C.D.S. in 1923.

William Arthur Sangster — Dr. William Arthur Sangster of Port Perry, Ontario, died in Sunnybrook Hospital in October, 1959.

Dr. Sangster was born in Toronto in 1872 and graduated from the R.C.D.S. in 1894.

Donald Alan Fralick — Dr. Donald Alan Fralick of Riverside, Ontario, died suddenly on November 5, 1959. He was 62.

A native of Dunnville, Ontario, Dr. Fralick received his education there and in World War I enlisted in the Canadian Army and served until 1918. Following this he attended the R.C.D.S. and graduated in 1922. Shortly after graduation he moved to Windsor where he remained until moving to Riverside ten years ago.

He was a charter member of Branch 94, Canadian Legion and belonged to the Garrison Club, the Essex County Dental Association and was a former member of Essex Golf Club.

He is survived by his widow, Margaret, a stepson, Robert; a stepdaughter, Janet, and three sisters, Mildred, Ida and Lena.

Joseph Leslie Dickson—Dr. Joseph Leslie Dickson of Toronto, Ontario, died on November 5th. He was 60. Dr. Dickson had been in Sunnybrook Hospital for the past four years.

Dr. Dickson was born in Woodstock, he graduated from the R.C.D.S. in 1921 and practised in Newfoundland and Toronto. He served as a pilot in the air force during World War I and in World War II he served as a captain in the Canadian Dental Corps. A series of strokes forced his retirement soon after the end of World War II.

Surviving are his widow, Muriel, and a sister, Mrs. E. J. Toye.

Joseph Vickar — Dr. Joseph Vickar of Vancouver, B.C., died suddenly on October 31st at the age of 33.

Dr. Vickar was born in Brooksby, Saskatchewan and received his education at the University of Saskatchewan and the University of Oregon Dental School, graduating in 1949.

He was a member of several dental organizations and of B'nai B'rith and the Richmond Country Club.

Dr. Vickar is survived by four brothers, Charles, William, Norman and Isaac, and a sister, Lillian.

F. D. I. DUBLIN MEETING JUNE 1960

The annual meeting of the International Dental Federation will be held in Dublin, June 20-25, 1960. Registration and hotel reservation forms may be secured on request to the Secretary, Canadian Dental Association, 234 St. George St., Toronto. The registration fee is increased for those applying after March 1st. No hotel accommodation is guaranteed after March 1st. All those intending to attend this meeting should apply to the F.D.I. National Treasurer for F.D.I. Supporting Membership (annual fee \$15.00) before registering for the meeting.

SCIENTIFIC PROGRAMME: Three main topics have been chosen for the scientific programme: full denture prosthesis, maxillo-facial injuries and public health services—then dental technician problem. The papers on the day devoted to public health will illuminate the dental technician problem from the

social and political angles, whilst those on full denture prosthesis will demonstrate that this is a scientific procedure.

Conferences on other subjects, including military dentistry, will be held.

SOCIAL EVENTS: The opening reception will be held at the Gresham Hotel on Sunday evening, June 19th. On Wednesday there will be a banquet at the Shelbourne Hotel and on Friday, June 24th a ball with a short cabaret will be held at the Gresham Hotel.

CANADA CUP: Golfers will be interested to learn that the President of the Golfing Union of Ireland has announced that the Canada Cup world golf tournament will be held at Portmarnock Golf Club, Dublin, from June 23rd-26th, 1960. Another reason to book your hotel rooms early.

Inquiries respecting this meeting indicate a sizable delegation will attend from Canada.

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mention only the authors whose material has been used and to designate the reference within the text by means of a superior numeral, e.g. earlier findings by Smith¹ revealed that References should be arranged numerically in order of their appearance in the text in preference to alphabetical order. References should be arranged as follows: citation number, last name of the author, first name and initial, title of the article, name of the journal or text with volume, pages, month and year.

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ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1960	Ottawa, Ontario	Sept. 25th-28th
1961	Saskatoon, Saskatchewan	May 31st-June 3rd
1962	Vancouver, British Columbia	June 3rd-6th

1967	Toronto, Ontario	May
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(Centennial Celebration
of Dentistry in Canada)

FUTURE EVENTS

Date	Function	Location	Officer	Address
March 13-16, 1960	28th Annual Postgraduate Clinic—District of Colum- bia Dental Soc.	Shoreham Hotel, Washington	—	Dist. of Columbia Dental Society, 1835 Eye St., N.W., Washington 6, D.C.
May 12, 13, 14, 1960	B.C. Dental Association Convention	Empress Hotel, Victoria, B.C.	Dr. W. Ross Upton,	217 Medical-Dental Bldg., Vancouver 1, B.C.
May 15-18, 1960	Ontario Dental Association Convention	Royal York Hotel, Toronto, Ont.	Mrs. A. Durham,	230 St. George St., Toronto 5, Ont.
June 5-8, 1960	Maritime Dental Convention	Admiral Beatty Hotel, Saint John, N.B.	Dr. A. D. Bona,	82 King St., Saint John, N.B.
June 20-25, 1960	F.D.I. Annual Meeting	Dublin, Ireland	Dr. Don W. Gullett,	234 St. George St., Toronto 5, Ont.
Oct. 12-15, 1960	42nd Annual Meeting American Society of Oral Surgeons	Westward Ho Hotel, Phoenix, Arizona.	Dr. D. C. Trexler,	840 North Lake Shore Drive, Chicago 11, Ill.

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For further information write to: Director, Division of Graduate & Postgraduate Studies, Tufts University School of Dental Medicine, 136 Harrison Ave., Boston, Mass.

OTHER INFORMATION CONCERNING DENTAL MEETINGS OUTSIDE OF CANADA IS AVAILABLE AT C.D.A. HEADQUARTERS.

L'Association Dentaire Canadienne.

JOURNAL

Volume 26

Numéro 1

janvier 1960

Cas intéressants de denticules observés à leurs différents stades de développement

par JEAN-GUY BOILY—Université de Montréal.

Les denticules, ou nodules pulpaire, comme on le sait, sont des calcifications que l'on trouve dans la pulpe d'une dent, tantôt dans la chambre pulpaire, tantôt dans le canal radiculaire. Selon leur structure microscopique, les denticules sont vrais ou faux. Les denticules vrais sont des masses localisées de tissu calcifié qui ressemblent à la dentine; cependant les tubules dentinaires sont généralement moins nombreux et plus irréguliers que dans la dentine normale. On peut encore distinguer les denticules libres, les denticules adhérents aux parois dentinaires, et les denticules interstitiels.

Selon Willman⁽¹⁾, 87% des 164 dents adultes choisies au hasard présentent des denticules. Il est cependant plus rare d'en trouver dans la pulpe des dents n'ayant pas terminé leur développement. Le cas qui nous intéresse a été trouvé dans le département de pathologie dentaire de

l'Université de Montréal. Il s'agit d'une série de coupes labio-linguales d'une incisive enrobée dans la celloïdine qui montrent quelques denticules libres et adhérents dans le canal radiculaire.

Cette dent est manifestement jeune. En effet, l'apex est largement ouvert, les cellules étoilées de la pulpe et les odontoblastes sont jeunes et les vaisseaux sanguins sont nombreux. L'examen microscopique nous révèle à faible grossissement une interruption de la dentine dans la région apicale. Ce phénomène indique donc qu'il y a eu à un certain moment un trouble dans le développement et conséquemment un arrêt dans la formation de la dentine. Au milieu sur la figure 1, on observe un orifice par lequel une partie du périodonte s'est invaginée dans la pulpe du canal radiculaire. Enfin on remarque la présence de deux denticules libres dans la pulpe jeune et d'un den-



FIGURE 1

Partie linguale de l'apex de la dent: pulpe, dentine, membrane périodontaire. (Objectif 2.5, Leica) Interruption de la dentine, présence de denticules libres, d'un denticule adhérent et de débris épithéliaux dans la pulpe jeune.

ticule attaché à la paroi dentinaire. Chacun de ces denticules est entouré d'odontoblastes qui prennent l'apparence d'une zone foncée et forment une couronne autour des denticules. Il est aussi intéressant de noter la présence dans la pulpe de quelques îlots épithéliaux.

La figure 2 montre ces îlots épithéliaux qui se colorent très bien. La gaine de Hertwig est recourbée à son extrémité. Tapissant la paroi du canal radiculaire, on remarque une bande d'odontoblastes jeunes en formation.

La microphotographie 3 montre deux îlots épithéliaux; l'un se trouve déjà enrobé dans la dentine, l'autre est libre et éventuellement sera aussi entouré de dentine quand celle-ci continuera de se former pour fermer l'apex. Sur les figures 2 et 3, on observe que la dentine autour du premier îlot épithélial est beaucoup plus abondante que sur le reste de la paroi dentinaire adjacente.

Sur la figure 4, on voit l'autre côté de la partie apicale de la même dent. On remarque d'abord un rétrécissement soudain de la dentine qui laisse croire à un trouble durant la formation de celle-ci. En bas à droite, on remarque un denticule libre dans la pulpe jeune. Si on examine à un plus fort grossissement ce denticule (figure 5), on observe que le groupe de cellules qui y est inclus commence à se dégénérer. En effet, le groupe de cellules se trouve de plus en plus isolé de son milieu nourricier par l'addition de nouvelles lamelles calcifiées au denticule et ainsi les cellules incluses évoluent vers la dégénérescence. Il s'agit ici d'un phénomène à un stade plus avancé que celui qu'on vient d'observer. Dans ce denticule, on aperçoit moins bien la présence de canalicules dentinaires, on voit plutôt une masse de tissu calcifié sans organisation ou structure apparente.

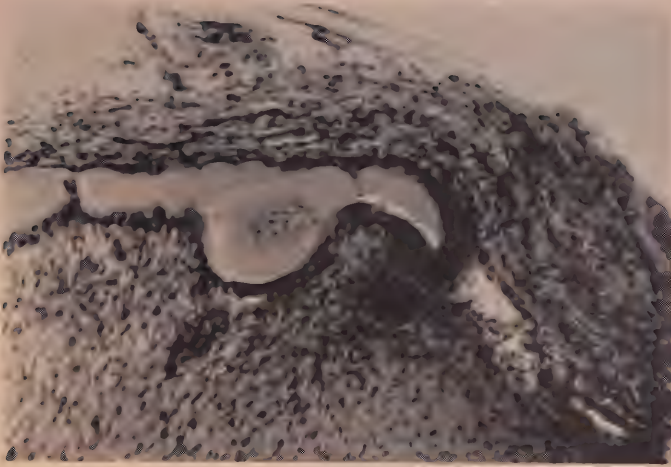


FIGURE 2

Détails du centre de la figure 1. (Objectif 10) Bande sombre et odontoblastes accolés à la paroi dentinaire (à gauche). Gaine de Hertwig recourbée à son extrémité.



FIGURE 3

Détails de la figure 2. (Objectif 25) Îlots épithéliaux; en haut, îlot épithélial entouré de dentine, en bas, îlot épithélial sans dentine autour.

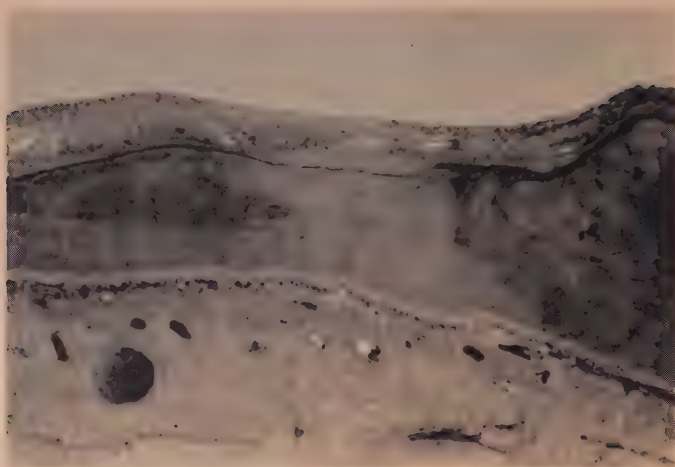


FIGURE 4

*L'autre côté de la partie apicale. (Objectif 2.5, Leica) Rétrécissement de la dentine.
Denticule libre dans la pulpe.*

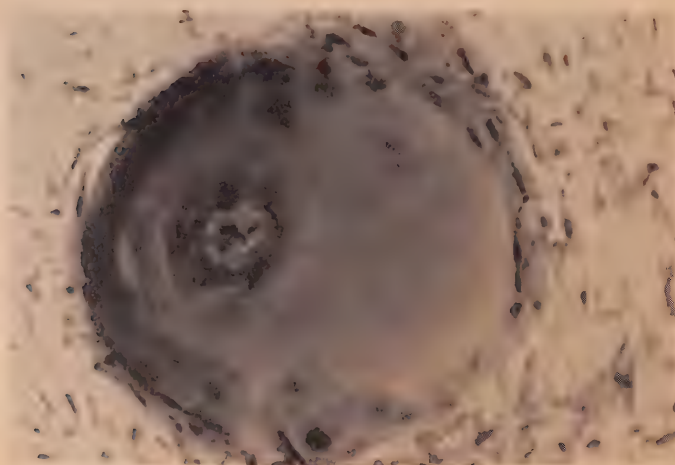


FIGURE 5

*Détails de la figure 4. (Objectif 25) Denticule libre ne présentant pas de canalicules
dentinaires à l'examen microscopique. Au centre, une zone de dégénérescence
cellulaire.*



FIGURE 6

Coupe passant par le plancher de la chambre pulpaire d'une molaire. (Objectif 2.5, Leica) Inclus dans la dentine, un denticule interstitiel rond avec un petit noyau de tissu améloïde.

DISCUSSION:

Hill⁽²⁾ a établi qu'un denticule peut se présenter de trois façons:

- 1° Une calcification de la pulpe causée par une invagination des odontoblastes durant la période de développement. Cette région invaginée se divise du corps central des odontoblastes et des îlots de dentine sont formés. Ces observations ont été faites sur des animaux déficients en vitamine A ou C.
- 2° Dans la fibrose de la pulpe, le tissu conjonctif hyalin peut devenir calcifié.
- 3° Les "Corpora amylacea" de la pulpe peuvent servir de foyer pour une calcification lamellée de la pulpe.

De ces trois sortes de calcification, la première semble le plus s'apparenter aux denticules ci-haut décrits. On remarque en effet sur les microphotographies 2 et 3 des odontoblastes jeunes qui sont encore en continuité avec la zone d'odontoblastes normaux. D'autre part, sur la photo 3, à

gauche, on observe un îlot épithélial provenant ou qui s'est détaché de la gaine épithéliale de Hertwig. La masse plus abondante de dentine autour de l'îlot épithélial, à droite sur la même photographie, montre que l'activité épithéliale est une cause de la formation du denticule (la fonction organisante de l'épithélium étant généralement acceptée).

A propos du premier groupe de Hill, Euler⁽³⁾, Kronfeld⁽⁴⁾, et Neuwirt⁽⁵⁾ sont d'avis que ces odontoblastes ne proviennent pas de la couche odontoblastique, mais ils seraient formés à partir des cellules étoilées de la pulpe. Ces odontoblastes, observent-ils, sont ordinairement moins grands et sont plutôt de forme cuboïde ou ronds. Ils forment la dentine irrégulière et, à cause de la petite quantité de pré-dentine présente, on pourrait croire que la formation de dentine est lente.

Evidemment, le cas que nous venons de décrire présente un denticule qui

constitue une anomalie du développement qui s'apparente au premier groupe mentionné par Hill. D'après les microphotographies 2 et 3, la formation de dentine autour de l'îlot épithélial a été causée par une invagination de l'épithélium et par la fonction organisante de cet épithélium. Cette observation confirme l'opinion énoncée par Heindl⁽⁶⁾. Les denticules de ce genre prennent leur origine près de la surface du germe dentaire, et en conséquence ils évoluent généralement pour devenir des denticules interstitiels (Figure 6).

Dans certains cas, les cellules épithéliales incluses peuvent elles-mêmes exercer une activité formative et produire une petite quantité de tissu améloïde. Dans ce cas, le denticule présente un petit noyau de tissu améloïde (Figure 6) et il s'agit d'une transition entre un denticule et un amélope inclus, qui appartient à un autre chapitre de la pathologie dentaire.

L'orifice sur la figure 1, avec invagina-

tion du tissu mésodermique, présente un vaisseau assez large que relie la pulpe au périodonte. Cet orifice est actuellement le début de formation d'un canalicule latéral atypique, constituant une contribution intéressante à ce sujet-ci.

RÉSUMÉ:

Description d'une dent au développement incomplet, où on observe à différents niveaux plusieurs denticules aux différents stades de développement, qui montrent très clairement le progrès de la formation de denticules autour de débris épithéliaux invaginés dans la pulpe. Les denticules de ce genre constituent un groupe spécial de denticules.

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Les fondements de l'endodontie¹ *

par R. SCHNEIDER (New York)

Depuis la dernière guerre, une avalanche incessante de drogues nouvelles *miracles* s'est déchaînée sur les membres des professions médicales et sur le public, avant tout par l'avènement des antibiotiques. En pratique dentaire, et en endodontie plus particulièrement, le dentiste s'est vu remettre un nombre considérable de drogues, pour ne parler que de la pénicilline, des autres «mycines» et de leurs combinaisons variées. Pourtant, son désir le plus profond est celui de mettre enfin la main sur un remède souverain, pouvant résoudre tous les problèmes de la pathologie du canal radiculaire. Nous avons

tous essayé ces remèdes nouveaux et je suis sûr que la plupart d'entre nous en ont été déçus et ont conclu que les fondements du traitement endodontique ne devaient pas être abandonnés.

Pour mon compte, je suis persuadé, après plusieurs années d'expérience, que *les médicaments n'ont pas de rôle important à jouer en endodontie* et qu'ils devraient être relégués en dernière position dans la discussion du traitement des affections de la cavité pulpaire. Tout praticien doit cependant pouvoir librement user de la drogue qu'il juge utile, *pour autant qu'il ne s'écarte pas des principes fondamentaux* suivants, que je résumerai à trois exigences:

1. Ouverture de la dent et accès à la cavité pulpaire.

¹Résumé d'une clinique présentée à la réunion de la Société dentaire internationale, Paris, 29 novembre 1958.

*Médecine et Hygiène, 30 octobre 1959

2. Nettoyage correct et complet du canal radiculaire en entier.

3. Remplissage du canal radiculaire.

Je reprendrai ces trois étapes du traitement l'une après l'autre,

Lorsque nous voulons accéder au canal radiculaire, nous devons ouvrir la couronne de la dent suffisamment largement pour pouvoir introduire nos équavisoires, nos broches, mèches et matériel d'obturation. Si cette première démarche n'est pas correctement accomplie, nous ne pourrons pas exécuter les deux suivantes. Notre ouverture de la couronne doit également être *plus large que la partie la plus large du canal radiculaire*. Si cette ouverture est trop petite, notre nettoyage et notre remplissage ne pourront pas être parfaits. La plupart des échecs du traitement de racines sont dus à une insuffisance d'accès. Nous savons bien—et cela est valable pour toutes les branches de l'art dentaire—que si nous voyons ce que nous faisons, nous pouvons le faire. C'est particulièrement le cas ici.

Si nous pensons donc que notre première étape a été terminée, nous pouvons maintenant nettoyer et stériliser le canal ou les canaux selon le cas. Il est des plus sages de choisir des instruments dont le calibre correspond à celui des canaux auxquels on a affaire. Si nous utilisons un instrument trop fin dans un canal trop large, nous pouvons passer l'apex de la racine sans nous en apercevoir et produire ainsi une irritation. Inversement, notre instrument ne doit pas être trop volumineux, car nous pourrions bloquer le canal et ne pas pouvoir retirer notre instrument.

Que faire une fois l'instrument correct choisi ? Il est bon de le placer dans le canal et de prendre un cliché radiologique afin de déterminer la bonne longueur et de pouvoir faire les corrections nécessaires. Une fois ces mesures pratiquées, on s'en souviendra à propos de chaque instrument que l'on introduira dans le canal. De cette manière, on ne dépassera pas l'apex. Si le tissu contenu dans le canal est vivant, ou d'une texture solide, on introduira une broche pour le retirer et l'on continuera

le nettoyage avec des broches. Si le tissu est mou, les broches peuvent être utilisées à la fois pour nettoyer et élargir le canal. Des alésoirs peuvent également être utilisés pour élargir le canal. Les broches et les alésoirs sont en vente sous différents diamètres. Si l'on choisit un instrument de la série pour nettoyer une dent, les diamètres successifs doivent être utilisés jusqu'à ce que le nettoyage soit terminé et que le canal soit suffisamment élargi pour permettre l'obturation. Lorsque toutes ces mesures préliminaires ont été accomplies à satisfaction, nous pouvons préparer notre matériel et procéder à l'obturation.

Ce remplissage doit être effectué avec précision et avec le plus grand soin, afin que le canal se trouve bouché juste à son extrémité apicale et que l'obturation soit compacte et dense sur tout le trajet du canal. *Les matériaux utilisés doivent être bien tolérés* par les tissus apicaux et être imperméables aux fluides tissulaires circulant dans la zone apicale. A mon avis, le matériel idéal est la gutta percha utilisée en combinaison avec le chlora percha ou un produit analogue. Dans certaines circonstances, les fils d'argent et le ciment d'argent sont utilisés avec plus de profit, par exemple si les canaux sont très fins et incurvés. Nous utilisons souvent un fil d'argent fin et nous le formons de telle sorte qu'il remplisse le canal parfaitement. Le ciment d'argent est utilisé comme un moyen de fixation. Il est essentiel que le fil d'argent remplisse exactement le canal sans le secours du ciment, sans quoi nous nous exposons à des échecs. Le ciment doit uniquement servir à maintenir le fil en place et non à combler des vides.

Lorsque l'on utilise la gutta percha, il est nécessaire de choisir la première pointe de telle manière qu'elle remplisse le canal aussi parfaitement que possible et qu'elle pénètre aussi près de l'apex que possible. Si la première pointe choisie est trop fine, lorsque nous tamponnons, nous pouvons lui faire traverser l'apex, ce qui doit être évité autant que possible. Si l'on choisit une pointe qui remplit très bien le canal, l'obturation complète sera facile et rapide.

Après tout, si cette obturation peut être pratiquée avec moins de pression et de force, la dent ne s'en trouvera que mieux par la suite. Lorsque l'on pratique l'obturation, il est bon de contrôler les progrès

de l'opération aux rayons X. A la fin, un cliché doit être pris et gardé comme document, permettant la comparaison par la suite et l'appréciation des résultats du traitement.

*Photographie prise à l'occasion de la première réunion conjointe
des Sociétés dentaires de Montréal*



De g.à d.: Mm. les docteurs Daniel Steinberg, président de la Mount Royal Dental Society; Jean-Paul Lachapelle, président du Collège des Chirugiens-Dentistes de la province de Québec; Marc Thibault, président de la Société Dentaire de Montréal; Arthur H. Morrison, de New York, conférencier; Donald Gordon, président du Montreal Dental Club.

PAGES EDITORIALES

Les dix prochaines années dans le domaine de l'assurance-santé

Au cours du dernier congrès national de l'A.D.C. tenu à Halifax, en juin dernier, quatre dentistes reconnus pour leur intérêt et leur documentation dans des domaines qui sont à la base de l'organisation de notre profession — les recherches, l'enseignement, les tendances sociales et économiques et la législation—ont traité, dans un colloque, de l'avenir de la dentisterie dans les dix prochaines années. Nous avons exposé déjà¹ ce que réservaient les recherches à notre profession. Ce mois-ci, nous résumerons les idées au sujet de la législation qui influencera l'exercice au Canada, ou plutôt de l'assurance-santé et des conséquences qu'elle produira sur la dentisterie d'ici 1970.

L'avenir se prédit plus sûrement à la lumière du passé. Les gouvernements ont-ils posé des gestes qui laissent prévoir l'établissement prochain de l'assurance-santé? Si on englobe l'assurance-santé dans l'ensemble de ces lois qui constituent la sécurité sociale, on peut dire, sans se tromper, que cette mesure sera une suite logique de l'assistance que prodigue déjà l'Etat à la population.

Il y a aujourd'hui une vague socialisante qui submerge le monde entier. On a de plus en plus recours à l'Etat et l'individu perd sa personnalité. Cette tendance universelle se distingue par toutes sortes de législations: assurance-chômage, pension de vieillesse, assistance aux mères nécessiteuses, allocations familiales et autres; l'ensemble de ces initiatives s'appelle la sécurité sociale. Le principe directeur de ces mesures est qu'on peut accomplir davantage et mieux pour un plus grand nombre en groupant les efforts qu'en agissant seul. On procède généralement par étape: on s'intéresse à un groupe, on avantage une autre classe et finalement toute la population exige des mesures qui s'adressent à son entièreté, par exemple, l'assurance-santé.

Les habitants d'un pays comme le nôtre comptent de plus en plus sur le gouvernement pour une foule de choses qui autrefois faisait partie de l'initiative privée. Qui s'objecte à recevoir régulièrement un chèque du gouvernement? Qui refusera de se faire soigner aux frais de la princesse? On croit trop souvent que le gouvernement peut et devrait fournir gratuitement les nécessités vitales. L'envers de la médaille

(1) Livraison de novembre 1959 du Journal.

est que plus les législateurs donnent, moins les citoyens ont d'argent à cause des impôts qu'ils doivent payer.

Quel plan s'est tracé le gouvernement pour établir l'assurance-santé? Il s'y rend par phases. Revoyons les mesures sociales votées au cours des dernières années:

1927 — Pension de vieillesse, \$20. par mois (à titre d'essai).

1937, 1943, 1947, 1949 — amendements à la loi pour monter cette pension à \$40.

1940 — Loi d'assurance-chômage.

1944 — Loi des allocations familiales.

1948 — Etablissement d'un programme national de santé: octrois pour enquêtes, contrôle des maladies, recherches en hygiène publique, etc.

1951 — Amendement à la loi des pensions de vieillesse.

1953 — Le programme national de santé élargit ses cadres et fournit des services gratuits de radiologie, examens de laboratoire, réhabilitation, santé maternelle et infantile.

1954 — Loi des pensions aux infirmes.

1957 — Loi des assurances hospitalières et des services de diagnostic.

1957 — Pension de vieillesse portée à \$55.

1958-1959 — Plan d'assurance-hospitalisation.

Toutes ces mesures ont été extrêmement populaires et mal venu serait le gouvernement qui oserait les abolir!

Le prochain pas, d'après le programme du gouvernement, serait d'organiser les services médicaux et enfin les services dentaires.

Les changements de gouvernement n'influencent pas les mesures sociales, une fois qu'elles sont établies. Le coût formidable d'un plan national d'assurance-santé fait seul hésiter le gouvernement; mais il le réalisera quand la pression du voteur sera assez forte. Et alors, les taxes...!

Le gouvernement du Canada jusqu'ici s'est montré sage en procédant lentement dans ses mesures sociales. Et il nous demande maintenant de fournir des statistiques à ses ministères, qui leur montreront que notre profession peut administrer elle-même des plans d'assurance-santé et répondre aux besoins de la population. Si nous ne pouvons pas répondre à ces exigences du gouvernement, nous devons nous en remettre à ses décisions.

La profession se doit donc d'accueillir avec largeur d'esprit les demandes qui lui sont faites par des groupes pour des services de santé dentaire.

Il y a aux Etats-Unis une centaine de plans d'assurance dentaire — la plupart supportés par les syndicats ouvriers — qui groupent plus d'un demi-million de personnes. Tous ces plans peuvent être bons, médiocres ou mauvais, mais, collectivement, ils montrent une tendance nouvelle dans les soins dentaires. Ils peuvent prendre la place de l'assurance-santé. Le succès de ces plans repose sur chacun des dentistes de notre pays, sur la conception qu'il a de ces traitements de groupe, et sur l'apport personnel qu'il contribuera.

On peut donc prédire pour les prochaines dix années une augmentation de ces plans de services dentaires organisés pour des groupes et un désir plus grand de l'individu de se faire traiter; ensuite, le gouvernement — comme il le fait dans le domaine de l'enseignement — votera des lois susceptibles de donner aux citoyens de ce pays une facilité de plus en plus grande de protéger leur santé, y compris — ne nous leurrions pas — leur santé dentaire.

GERARD de MONTIGNY.

Relevé sur l'économie de l'exercice dentaire de 1958

(suite)

Les première et deuxième parties de ce relevé ont paru dans la livraison de décembre du Journal. Les troisième et quatrième parties paraissent ci-après et la fin de ce relevé sera publiée le mois prochain. On pourra, après la parution de tout le relevé s'en procurer des copies en s'adressant au secrétariat.

III Revenus en rapport avec l'équipement et le temps consacré à la clientèle

La tendance est à l'augmentation du nombre des fauteuils dans les cabinets dentaires. En 1958, un peu plus de 44% (53.6%) (Les chiffres entre parenthèses sont ceux du relevé de 1953) des dentistes canadiens avaient un seul fauteuil à leur disposition et plus de 48% (41.5%) deux fauteuils. Les dentistes ne possédant qu'un fauteuil ont en 1958 une moyenne de revenus nets de \$8,562 (\$6,508). La moyenne des revenus nets des dentistes utilisant deux fauteuils, comme l'indique le Tableau no 8, s'établit à \$11,789 (\$8,793). Le nombre des dentistes utilisant deux fauteuils a augmenté, depuis 1953, de 6.7% et le nombre de ceux qui n'ont qu'un seul fauteuil a diminué de 9.5%.

TABLEAU no 8

Dentistes travaillant à leur compte
moyenne des revenus nets 1958—
nombre de fauteuils

nombre de fauteuils	pourcentage de dentistes	moyenne des revenus nets
vides	2.7%	\$ 9,803
1	44.1	8,562
2	48.2	11,789
3	4.0	14,618
4	.5	16,989
5	.3	10,697
6	.1	21,500
10	.1	12,800
	100.0	10,453
relevé sur l'économie de l'exercice dentaire —1958		

Le Tableau no 9 montre que plus de 92% des cabinets dentaires ont des appareils de radiographie, représentant une augmentation de 2.2% sur les chiffres de 1953. Les dentistes

qui se servent de ces appareils ont rapporté des revenus supérieurs à ceux des dentistes qui n'en ont pas et des revenus dépassent aussi légèrement la moyenne générale des revenus des dentistes travaillant à leur compte au Canada.

TABLEAU no 9

Dentistes travaillant à leur compte
Moyenne des revenus nets 1958—
appareils de radiographie

appareils de radiographie	pourcentage des dentistes	moyenne des revenus nets
vides	1.0%	\$ 8,638
oui	92.2	10,710
non	6.8	7,252
	100.0	10,453
relevé sur l'économie de l'exercice dentaire —1958		

Le Tableau no 10 montre que 20.3% des dentistes ont dit disposer d'appareils à anesthésie dans leur cabinet. C'est une augmentation de 2% sur les données de l'enquête de 1953. Ces dentistes qui avaient des appareils à anesthésie, contrairement aux chiffres de 1953 ont déclaré une moyenne de revenus plus élevée que celle déclarée par les dentistes ne disposant pas de ces appareils.

TABLEAU no 10

Dentistes travaillant à leur compte
moyenne des revenus nets 1958
—appareil d'anesthésie

appareil d'anesthésie	pourcentage des dentistes	moyenne des revenus nets
vides	1.4%	\$ 7,193
oui	20.3	10,579
non	78.3	10,479
	100.00	10,453
relevé sur l'économie de l'exercice dentaire —1958		

Les dentistes semblent vouloir augmenter le rendement de leur cabinet de façon à traiter plus de patients et obvier aux inconvénients que présente la proportion du nombre des dentistes par rapport à la population qui s'aggrave sans cesse (1: 2,963 en 1958). On en voit une illustration dans le Tableau no 11.

Les dentistes canadiens, dans une proportion de 57%, accordent des rendez-vous d'une demi-heure, en moyenne; d'autres dentistes, par ailleurs, dans une proportion de 30%, gardent leurs patients environ 45 minutes.

Ces chiffres indiquent un écart considérable, avec ceux de 1953, où 53% des dentistes donnaient des séances de traitement d'une moyenne de 45 minutes et où 34% gardaient leurs patients environ une heure.

Le Tableau no 11 indique les rapports qu'il y a entre la durée des rendez-vous et les revenus nets.

On y voit qu'à part la petite proportion de dentistes qui donnent des rendez-vous qui durent en moyenne plus d'une heure, ceux qui ont les plus gros revenus nets (en moyenne \$11,405) sont ceux qui ont des séances de traitements d'une moyenne d'une demi-heure. En 1953, les dentistes qui avaient les revenus nets le plus considérables étaient ceux qui avaient des rendez-vous de 45 minutes.

TABLEAU no 11

Dentistes travaillant à leur compte
moyenne des revenus nets--
durée des rendez-vous

moyenne de la durée des rendez-vous	pourcentage des dentistes	moyenne des revenus nets
vides	1.5%	\$ 9,605
30 minutes	57.1	11,405
45 minutes	30.7	9,298
1 heure	9.8	8,285
plus d'une heure	.9	14,250
	100.0	10,453
relevé sur l'économie de l'exercice dentaire —1958		

Ce Tableau no 12 montre que la majorité des dentistes canadiens exercent leur profession onze mois ou plus, par année. Presque 21% de ceux qui disent avoir travaillé durant 48 semaines au cours de 1958 ont une moyenne de revenus nets de \$11,598. La petite proportion de ceux qui ont travaillé durant 43 semaines ont les revenus les plus considérables. Les pourcentages illustrés dans ce tableau ont peu varié depuis 1953.

TABLEAU no 12

Dentistes travaillant à leur compte
moyenne des revenus nets 1958
—nombre de semaines de travail

nombre de semaines de travail	pourcentage des réponses	moyenne des revenus nets
vides	2.5%	\$ 8,591
52	2.8	10,068
51	2.4	9,206
50	12.9	9,932
49	13.9	11,104
48	20.8	11,598
47	10.9	11,551
46	9.6	11,339
45	5.5	10,373
44	4.4	10,633
43	1.6	12,383
42	2.9	10,114
41	1.1	10,282
moins de 41	8.7	5,778
	100.0	10,453
relevé sur l'économie de l'exercice dentaire —1958		

Le Tableau no 13 indique que les dentistes canadiens ont joui d'une assez bonne santé en 1958. Seulement 2.8% d'entre eux ont été forcés par la maladie ou autre incapacité d'abandonner leur travail pour plus d'un mois. Ces chiffres sont meilleurs que ceux de 1953 qui étaient de 3.6%.

TABLEAU no 13

Dentistes travaillant à leur compte
nombre de jours d'absence 1958—
maladie ou accident

nombre de jours d'absence	pourcentage des dentistes	pourcentage cumulatif
0	2.1%	2.1%
1	4.9	7.0
2	7.4	14.4
3	6.5	20.9
4	4.3	25.2
5	4.2	29.4
6	3.0	32.4
7	4.1	36.5
8- 12	5.6	42.1
13- 17	3.0	45.1
18- 22	1.7	46.8
23- 27	.8	47.6
28- 32	1.4	49.0
33- 44	.9	49.9
45- 54	.5	50.4
55- 64	.4	50.8
65- 74	.3	51.1
75- 84	.2	51.3
85- 94	.1	51.4
95-104	.1	51.5
105 ou plus	.3	51.8
vides	48.2	100.0

relevé sur l'économie de l'exercice dentaire
—1958

rapports entre le nombre des heures de travail et les revenus nets se trouve dans le groupe de ceux qui ont de 25 à 29 ans. Ceux-ci se classent en deuxième rang pour le nombre d'heures de travail, mais septième pour les revenus nets. Les revenus des dentistes qui ont 50 ans et plus marquent une courbe nettement descendante qui est en rapport aussi avec la diminution des heures de travail.

TABLEAU no 14

Dentistes travaillant à leur compte
moyenne des revenus nets—
âge et heures de travail

âge	moyenne des heures de travail, par semaine	moyenne des revenus nets
vides	31.7	\$12,381
moins de 25	38.0	2,639
25-29	42.1	8,506
30-34	42.7	12,167
35-39	41.8	12,098
40-44	41.5	11,666
45-49	39.1	12,044
50-54	39.6	10,701
55-59	38.7	9,888
60-64	36.3	7,526
65-69	34.9	6,515
70-74	30.4	4,912
75-	28.1	1,406

relevé sur l'économie de l'exercice dentaire
—1958

L'enquête de 1953 ne couvrait pas les rapports qui existent entre la moyenne des revenus et l'âge et les heures de travail; on ne peut donc pas établir de comparaison. Le groupe des dentistes qui ont eu les revenus les plus considérables, c'est-à-dire ceux qui ont de 30 à 34 ans, ont eu aussi le plus grand nombre d'heures de travail, par semaine. La seule variante notable dans les

Le Tableau no 15 montre que l'omnipraticien passe en moyenne 40.5 heures (41.5) par semaine à son cabinet, 34.2 heures (34.2) au fauteuil. Les spécialistes travaillent 38.2 (39.2) par semaine, à leur cabinet.

TABLEAU no 15

Dentistes travaillant à leur compte
Moyenne des heures de travail au cabinet, par semaine—Genre de travail

genre de travail	vides	omnipraticien	spécialiste	tous genre de pratique
fauteuil	30.0	34.2	30.8	33.8
laboratoire	8.8	3.1	3.6	3.3
autres occupations	14.3	3.2	3.8	3.4
Total	53.1	40.5	38.2	40.5

relevé sur l'économie de l'exercice dentaire 1958

IV Revenus en rapport avec le personnel auxiliaire et le genre d'exercice

Les orthodontistes, de nouveau en 1958, comme en 1953, se classent au premier rang au point de vue des revenus et au point de vue des revenus nets en proportion de revenus bruts. La moyenne des revenus bruts des spécialistes, comme le montre le Tableau no 16, est plus élevée que celle des omnipraticiens dans une proportion de 28% (16%). La moyenne de leurs revenus nets est aussi plus élevée que celle des praticiens généraux dans une proportion de 38% (27%), mais la moyenne des dépenses des spécialistes n'est que de 9% (7%) plus élevée que celle des dentistes en pratique générale.

Le Tableau no 17 indique la proportion qui existe entre la moyenne des revenus nets avec le nombre des employés. Les proportions sont à peu près les mêmes qu'en 1953, si on

classifie les groupes ayant les revenus les plus considérables suivis de ceux dont les revenus sont les plus faibles. La seule exception se trouve dans le groupe qui emploie de 2.5 à 3.4 personnes. Ce groupe montre la plus forte augmentation sur 1953 pour le pourcentage des revenus nets en comparaison avec les revenus bruts et pour les revenus nets. En 1953, le groupe qui employait 3.5 personnes et plus montrait les revenus nets les plus élevés et ils étaient de l'ordre de \$3,000 de plus que tous les autres groupes. En 1958, ce groupe et celui qui employait de 2.5 à 3.4 personnes ont des revenus nets à peu près identiques. La différence des revenus bruts entre ces deux groupes est moindre en 1958 qu'elle était en 1953. Cette constatation peut indiquer que les bureaux de dentistes sont mieux organisés.

TABLEAU no 16
Moyenne des revenus nets des spécialistes

	moyenne des revenus bruts	moyenne des revenus nets	pourcentage des revenus bruts comparés aux nets
vides	\$16,728	\$ 8,440	50.5%
omnipraticien	19,334	10,114	52.3
spécialistes:			
chirurgien	24,475	14,683	60.0
orthodontiste	27,516	17,190	67.4
pédodontiste	24,976	13,958	55.9
périodontiste	21,516	11,725	54.5
autre	26,830	12,229	45.6
vide	23,730	14,153	59.6
relevé sur l'économie de l'exercice dentaire 1958			

TABLEAU no 17
Dentistes travaillant à leur compte
Moyenne des revenus nets—Nombre des employés

nombre des employés	moyenne des revenus bruts	moyenne des revenus nets	pourcentage des revenus bruts comparés aux nets
0	\$10,758	\$ 6,096	56.7%
.1- .4	15,591	9,560	61.3
.5-1.4	19,652	10,302	52.4
1.5-2.4	25,313	13,236	52.3
2.5-3.4	26,668	14,056	52.7
3.5 et plus	27,028	14,054	52.0
relevé sur l'économie de l'exercice dentaire 1958			

Le Tableau no 18 montre que 87% des dentistes travaillant à leur compte emploient un genre ou l'autre de personnel auxiliaire. La majorité, 48%, utilisent les services d'une assistante dentaire. En 1953, presque 81% des dentistes employaient du personnel auxiliaire et un peu plus de 48% utilisaient les services d'une assistante dentaire. Les chiffres, en 1958, indiquent une augmentation dans le nombre des cabinets qui ont plus d'une employée. Les colonnes "vides" représentent ceux-ci, qui dans leurs réponses ont oublié d'indiquer leur province. Le titre "autres" veut dire des arrangements d'employés autres que ceux mentionnés et comprend aussi les hygiénistes dont le nombre est restreint.

Une constatation intéressante qu'on peut faire, en regardant le Tableau no 19, est

que les seuls groupes qui ont une moyenne de revenus inférieurs à la moyenne des revenus des dentistes de tout le Canada, sont ceux qui utilisent un seul fauteuil et ceux qui ont deux fauteuils, mais qui n'ont pas d'employés. Il en était de même en 1953. Les revenus nets les plus considérables, en 1958, se trouvent chez les dentistes qui ont trois fauteuils et deux des employés suivants: assistante, secrétaire, réceptionniste. — Les enquêtes de 1953 et de 1958 ont prouvé que le dentiste qui travaille seul et le dentiste qui n'a qu'un fauteuil ont les revenus les plus bas, nonobstant leurs dépenses moindres. Ces statistiques semblent indiquer que si les dentistes ont la clientèle voulue, ils devraient, pour augmenter leurs revenus nets, augmenter le nombre de leurs fauteuils et le nombre de leurs employés.

TABLEAU no 18
Dentistes travaillant à leur compte
Pourcentage du nombre ayant des employés et le genre d'employés

TABLEAU no 19
Dentistes travaillant à leur compte
Moyenne des revenus nets—1958—nombre de fauteuils et des employés

	moyenne des revenus bruts	moyenne des dépenses	moyenne des revenus nets	pourcentage des revenus bruts comparés aux nets
1 fauteuil, pas d'employé	\$10,165	\$ 3,929	\$ 5,917	58.2%
1 fauteuil, 1 secrétaire ou réceptionniste	16,978	7,276	9,586	56.5
1 fauteuil, 1 assistante	18,388	7,944	9,933	54.0
2 fauteuils, pas d'employé	13,909	5,519	7,186	51.7
2 fauteuils, 1 secrétaire ou réceptionniste	22,728	10,085	11,782	51.8
2 fauteuils, 1 assistante	23,163	9,938	11,910	51.4
2 fauteuils, 1 assistante et 1 secrétaire ou réceptionniste	26,717	12,075	13,514	50.6
2 fauteuils, 2 assistantes	27,535	12,230	15,231	55.3
2 fauteuils, 1 technicien et 1 ou 2 des employés suivants: assistante, secrétaire ou réceptionniste	26,621	11,295	14,996	56.3
2 fauteuils, 1 hygiéniste et 1 ou 2 des employés suivants: assistante, secrétaire ou réceptionniste	29,086	13,670	15,415	53.0
3 fauteuils, 1 assistante	28,485	12,622	15,003	52.7
3 fauteuils, 2 des employés suivants: assistante, secrétaire ou réceptionniste	31,492	14,323	15,768	50.1
3 fauteuils, 1 hygiéniste et 1 ou 2 des employés suivants: assistante, secrétaire ou réception- niste	27 223	13,262	13,960	51.3
4 fauteuils, 1 ou plus d'employés autres que le dentiste	40,876	28,975	11,907	29.1
4 fauteuils, 1 dentiste et 1 ou plus d'autres employés				
relevé sur l'économie de l'exercice dentaire 1958				

Congrès national de l'Association dentaire canadienne

au Château Laurier, Ottawa

les 25, 26, 27 et 28 septembre 1960

to the post payment is the word "plan". When the word "plan" is introduced into the dental situation it implies forethought and organization. Modern practice administration technics require that except for emergencies each case should involve an examination, diagnosis, treatment plan and case presentation with an estimate. This is fundamental to our modern concept of a complete dental health program. Here again, we have evolved so that our view encompasses the whole dental mechanism as an integral part of a person and the guidance and maintenance of the dental environment for the lifetime of the patient. This enlightened concept of dental service falls short if it does not provide an acceptable method for the patient to carry out his portion of the responsibility.

Post payment as mentioned is not new and operates in every office. The first two methods of post payment do not justify the term "plan". The first is cash on completion of service. In this method, the patient pays as treatment progresses. The dentist hopes to keep the payment equal to the fee. This method has several disadvantages. If the payment does not keep up with the fee the dentist is ensnared in unplanned post payments, or the treatment must be delayed to the next payday. This method is a reflection on the credit of the patient and it prolongs treatment unnecessarily. The payment then influences when and how much treatment can be rendered. Employing such a method will prejudice the patient to accept only the minimum of dental requirements. Family care, routine maintenance, and mouth rehabilitation will thus be avoided by many.

In the other planless method, the dentist renders the necessary service on an open account and bills the entire fee upon completion of treatment. Although this method is satisfactory for many responsible patients, it also results in many uncollected and uncollectable accounts. Some dentists have tried to organize this phase of their practice by using notes or post

dated cheques. In this way an agreement is reached concerning specific payments. In the majority of cases, this is found to be no more satisfactory than the open accounts. This is so because the follow-up and collection methods are usually lax and ineffective. In common with the open account, the office notes usually have taken no cognizance of the patient's financial responsibility or lack of it.

COMMERCIAL PLANS

The plan of choice involves a signed agreement for a specific fee. This assumes an adequate diagnosis, case presentation and an estimated fee. The signed agreement is then transferred to a third party whose business it is to bill and collect the account. Such plans have had a long and successful history on this continent, dating back twenty years. In the United States where this plan has flourished, selected banks have acted as the third party. Banks cannot fulfill this function in Canada. There are certain inherent disadvantages which have made such plans generally unsatisfactory here. Briefly they involve, delegating too much authority to an organization which is beyond professional control, and the accounting agency can reject the contract if they find the patient unacceptable. In addition, they can pursue the account as vigorously as they wish without further consultation with the dentist. These conditions embarrass the participants and endanger the original patient dentist relationship. This type of plan, as it has operated, involves interest and administrative charges to the patient that greatly increase the cost of treatment. The characteristic plan also involves the advancement by the financing institution of a portion of the fee on acceptance of the contract and the balance up to about 90% of the contract at the conclusion of payments. An editorial in the *C.D.A. Journal* reviewing this situation pointed out that such an operation produces a net return

to the third party of at least 50% per annum of the funds invested. This is not intended as an objection to a reasonable profit or to financing institutions as such, but it is considered inappropriate that this situation should develop in a professional relationship between a dentist and his patient. These objections are also contrary to the principles of a post payment plan as stated by the Health Insurance Studies Committee of the C.D.A. and approved by the C.D.A. in 1954.

However, the post payment plans that have developed have certain desirable characteristics. First, they recognize the need for an organized payment plan for services. Post payment plans are accepted in modern society as a suitable method of budgeting for goods and services that are desired or needed. They make it possible for patients to receive treatment when it is needed, not when funds have been accumulated. In other words, dentistry can complete more favourably with less pressing needs whose costs are sugar coated with time payment plans. This is to the patient's advantage and allows us to provide a better and more timely service. The post payment plans encourage the dentist to organize his practice more efficiently. This is done through careful diagnosis and case presentation as mentioned and also through scheduling treatment on the basis of need. For example, quadrant dentistry is more practical when the fee is not collected on an appointment or cash basis. One of the mandatory conditions of a post payment plan is the necessity of assessing the financial responsibility of the patient.

In a well run office this assessment determines who shall enjoy the privilege of credit. In commercial plans this assessment is done by the financing company who will refuse to accept the poor credit risks.

SELF ADMINISTERED PLANS

Many of us consider that we already have a post payment plan in operation,

not just the open account mentioned earlier. In many offices all recommended steps are followed. Diagnosis is carefully done, a credit rating is obtained, the case presented in detail, an estimate given and terms discussed where indicated. Why then is a post payment plan an advantage that delegates some of assistant's duties to an outside organization? There are several tangible and intangible advantages, which can be described briefly in that it works better for all concerned. By way of explanation, the dentist is respected for his ability as a dentist but is not looked upon generally as an efficient business manager. Our contracts are not respected when in competition with time payment plans, charge accounts and credit plans. "The dentist won't complain if his account is a month or two or three late. He knows me," the patient says, "he won't get tough. Oh I know I owe it, he keeps sending me bills! These business firms will have to be paid first, and besides Christmas is coming." To the patient, the dentist's assistant, no matter what her method, is but an extension of the dentist.

Dental office procedures are likely to be inefficient in spite of our high regard for our own organizing abilities and our assistants' loyalty to our operating methods. Monthly billing is a considerable chore to an assistant already busy in many other tasks. Accounts can be missed, improperly filed, ignored or mailed late. Dental office accounting and billing is expensive in terms of time lost by the assistant as well as in dollars. A post payment plan operated by a third party out of the office releases the assistant for more productive work that she cannot delegate. Obviously, the cost of postage and stationery is a significant saving to be expected in a post payment plan. Accounts receivable accumulate in even the most efficient dental practice. They grow up quickly like bad weeds. Most of us are amazed when a detailed summation of our accounts receivable is made. These accounts not only grow quickly but they age and spoil

quickly. It is a minor tragedy to see a good account from a responsible patient decay into a collection case because of indifferent or unimpressive office procedures. The least that can be said against these accumulated accounts is that they represent unavailable earned capital. The lost earnings of this unavailable capital is a saving which by itself would pay the cost of post payment plan participation.

Some of these advantages accrue to the dentist primarily. There is, however, another and more basic concept to post payment plan that should appeal to the dentist and public alike. A well administered post payment plan allows the public with good paying habits to avail themselves of complete dental care. It is this concept of improving the dental care of the public that motivated our own C.D.A. and R.C.D.S. activities in this field. Cost is one of the factors preventing many people seeking services they need and appreciate. We need to demonstrate a conscientious effort to meet this objection. While it is true that many will not seek treatment even if it is free, there are many responsible people who will seek comprehensive treatment for themselves and their families if it can be done in accord with business methods they have come to accept. In spite of our apparent prosperity, many people think of purchasing goods and services only in terms of regular payments as stipulated in a contract.

D.S.P.I. POST PAYMENT PLAN

To meet this need, the Board of the Royal College of Dental Surgeons of Ontario has taken the initiative. A non-profit corporation has been formed with a national charter. This is the Canadian Dental Service Plans Inc. Its directors are appointed by your elected representatives. Thus, control remains within the profession. All action of the D.S.P.I. directorate has been within the principles developed by the C.D.A. Health Insurance

Studies Committee. D.S.P.I. has introduced a post payment plan as its first effort in the field of dental service plans. Other plans will undoubtedly follow and at present the same directorate also operates the Mother's Allowance Dental Welfare Plan.

The D.S.P.I. post payment plan offers the advantages suggested above of post payment plans in general, and it also has the unique advantage of economy for both patient and dentist. The cost to the patient and dentist is so modest it is nominal. Since the corporation is non-profit, all may be assured that the cost will remain as modest as efficient management can keep it. Since the profession directs the corporation, it assures the patient and dentist that the interests of both will be protected. The corporation was not organized for profit, but for service, which is, to bring better dental services within the reach of more of the responsible people.

In the dental office, active participation in the post payment plan releases the assistant from many hours of work, so that she may assist in such chairside procedures as washed field dentistry. Participation in the plan gets patients in the habit of paying regularly through a respected but efficient agency that reflects credit upon the dentist. It provides low cost financing for the patient. It does not violate in any way the original dentist patient relationship.

CREDIT GRANTING POLICY

It has become apparent that there is one area in which this plan has already been abused. It is not a collection agency. It cannot act as a collector of bad accounts when it operates on such a modest cost as 1%. There is an essential difference between the D.S.P.I. post payment plan, and the plans operated by commercial institutions. In the latter, the financial house accepts or rejects the applicant on the basis of credit reports. In our post

payment plan, since it is your money that finances the operation, and your money that is collected, you the dentist must accept or reject the request for credit. In the D.S.P.I. post payment plan as it presently operates, a contract is not transferred for which a substantial sum is paid. Only the duties of billing and remitting are transferred to an efficiently administered service organization. Thus, a poor credit risk is not magically cured for a 1% charge. Such therapy costs from 33 1/3% to 50% from professional collectors.

This aspect of the Post Payment Plan seems to have escaped many Ontario dentists and deserves some discussion here. Let us go back to the purely dental aspects of our cases for a moment. In prescribing treatment, our examination has noted many things about our patients in addition to the technical problems such as the number and types of fillings necessary. We assess, for instance, the patient's interest in dental health as manifest by his oral hygiene habits. This helps us to decide the type of dental treatment we should recommend. Orthodontic appliances and partial dentures with several clasps are contra-indicated in mouths that are habitually unclean. An assessment of the patient's dental interest is thus an important part of the examination. It has been stated that denture construction involves an assessment of a patient's sex, personality and age. In this way, aesthetics and function can be adjusted to the patient's unique situation.

It is submitted that an assessment of the patient's financial responsibility is also an integral part of the examination. A short report credit rating from the local credit bureau is generally sufficient. A case can be disastrous to the patient and the dentist if this essential piece of information is ignored. The patient's paying habits are as much a part of the dental picture as his personality, his oral hygiene, his rheumatic fever or his age. A credit rating is a brief report on the patient's recent history of his paying

habits. The report is confidential between the bureau and the dentist.

It has been suggested that seeking a credit report is unprofessional. Intelligent opinion does not support this view. A credit report is made up of facts, good or bad, that the patient has written in the record by his own past performance. A good rating is a source of pride and satisfaction. A poor credit rating is a skeleton to hide in the closet. We do a patient no great service when we involve him in a program that he will not or cannot pay for. He will not return for further treatment. He will be put to additional embarrassment and expense because of our ignorance. A poor credit policy can result in court costs to the patient, garnishee and probable loss of employment. It is not suggested that a patient should be refused treatment because of an unfavourable credit report but it is strongly recommended for the benefit of all concerned that he be denied the privilege of credit in general and a post payment plan in particular. The use of credit ratings in managing credit policy is so universal in other fields now that the patient with the poor credit rating would be used to the request for cash. Many credit managers have probably already told him that they could not extend credit to him at this time. In this way, the patient with the good paying habits gets the needed service through the wise use of credit. The patient with the poor credit rating can remain a patient but he is denied the use of credit that would be mutually unsatisfactory.

FUTURE TRENDS

Much thought has been given these problems by the R.C.D.S. Board, the D.S.P.I. directorate and its Business Administrator. The post payment plan is but the first effort in the direction of dental service payment plans that we have offered. It is gratifying that to date a substantial number have accepted this present plan. Dentists in Alberta, Sas-

katchewan and Nova Scotia are also using our facilities. Thought has been given to plans that will assume even more of the burden of the private office and thus be even more attractive to the profession. The success of these plans, if they are to operate within the principles laid down by the C.D.A. depend on the individual dentist presenting them to his patients. This will not produce a spectacular growth in the use of the plan but it will keep our activities within our concept of proper professional conduct. It is emphasized that, if these plans are to benefit the public as they are intended, they must be presented by the dentist in his office. The D.S.P.I. post payment plan can then grow on the same sound principle as a good dental practice, that is, by a reputation for service.

Pre-payment plans have deserved some attention also. Pre-payment plans will undoubtedly come in dental services as they have in hospital, medical and surgical services. Pre-payment of dental services will probably be initiated, when developed

and approved, only as group contracts. Some plans are presently operating in the United States. An objection has arisen, however, whenever the control of such a plan passes from the profession rendering the service. It is fair to say that when the profession loses control of the service the quality of the service deteriorates. The Directorate of D.S.P.I. is anxious, therefore, to provide ample evidence that organized dentistry can manage its own affairs; that it can develop and administer plans that make better dentistry available to more people. If Dentistry cannot provide convincing evidence that it can do this, future plans may be administered for it by agencies beyond the control of the profession.

Clearly then, the need is for all to evolve into effective participation in the plans the profession develops. To fail to evolve in an orderly fashion under the administration of our profession is to court non-professional administration that could be imposed upon us.

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C.D.A.-E.O.D.A. CONVENTION

OTTAWA, SEPT, 25-28, 1960

A SPECIAL FEATURE

SCIENTIFIC DISPLAYS AND DEMONSTRATIONS

TUESDAY AFTERNOON, SEPT. 27

Configuration of the Adult Palate*

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Previous reports concerning the configuration of the human palate have been fragmentary, concerned with but a few specific dimensions^{1,2,6,7,8,9}. No comprehensive study of palate dimensions appears to have been reported in the literature of oral anatomy or of orthodontics, although there are extensive and detailed studies of many related cephalometric problems including the adjacent features of arch form and tooth relationships. Problems in the further development of present intra-oral radiographic technics have indicated a need for comprehensive data on the palate configuration, mean dimensions for which could well serve to complement the other anatomical means or norms utilized in various fields of dental practice. In order to elicit information on the general con-

figuration of the palate we have therefore undertaken an analysis of extensive primary data accumulated in the course of an earlier but limited study¹.

BASIC REFERENCE POINTS

It should take little reflection to visualize an unusual problem in devising reliable and useful reference points from which to originate measurements of palate dimensions at frequent intervals over its area. As a base for measurements in the vertical plane there should not be difficulty in accepting a plane, roughly synonymous with the occlusal plane, defined for our purpose as a plane passing over the tips of the central incisor teeth and the tips of the mesiolingual cusps of each of the first molar teeth. Reference points for reliable measurements in the horizontal plane are far more difficult to conceive. The palate is bounded by teeth positioned in a dental arch conspicuously inconstant in its form; the only stable anatomical feature which lends itself to determination with reasonable reliability is the midline

Report of a study supported in part by U.S.P.H. Grant D-690.

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of the palate. This was therefore selected as a base for measurements to be made in the horizontal plane.

Extension of the midline of the palate anteriorly, to its intersection with another line tangential to the labial surfaces of the incisor teeth, provides a point from which to originate antero-posterior measurements along the midline. It can be assumed that for the grouped data to be studied the possible influence of protrusive incisor teeth in some of the maxillae will be substantially offset by the presence of retruded incisors in others, so that the location of this point should be reasonably representative of the sample.

Any conceivable solution to the problem of obtaining transverse measurements in the horizontal plane would appear to depend on a somewhat less satisfactory basis than the reference points so far outlined. The lingual or palatal margins of the teeth bounding the palate almost defy definition in terms of their relation to the midline, because of the wide variation in the location of most of the identifiable features of teeth, such as pits or fissures, cusp eminences, etc. After considering all apparent possibilities it was decided to define the lateral boundaries of the palate in terms of the location of medial points on the circumference of the teeth, to be derived from the mesial and distal contact points. The latter are relatively constant in their location on teeth, and readily identifiable.

SOURCE OF DATA

The aforementioned base plane and reference points have been applied to analysis of the topography reproduced on enlarged (1.5X) photographs of one hundred and fifty casts made from alginate impressions of adult maxillae. Each carried a millimeter scale at the level of the occlusal plane, and contour lines scribed at 2.00 mm. intervals vertically from the base plane over the entire palate area (Fig. 1). The impressions were obtained from the

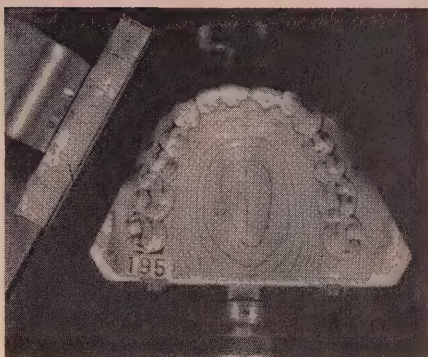


FIGURE 1

Enlarged photograph of a scribed cast (1.5X) with millimeter scale attached at level of occlusal plane. This scale was used for all measurements made on the photograph. The contour lines represent 2 mm. vertical increments of palate height in relation to the occlusal plane.

mouths of patients or students in the dental clinics of Tufts University, selected at random except for requirements of (a) a complete maxillary dentition on at least one side of the midline, (b) both first molars in functional occlusion and (c) freedom from gross deformation or mutilation. Over ninety per cent were of known white racial origin; and the subjects ranged in age from twenty-one to fifty-five years, with a median age of 28.7 years; one hundred were males and fifty were females.

METHOD OF PROCEDURE

Each photograph was marked along the visible midline of the palate by a line extended to intersect with another drawn at right angles to it over the labial surfaces of the central incisors. The medial point on the palatal border of each tooth was obtained by bisecting at right angles a line drawn through the contact points of each tooth, and extending this line of bisection through to the medial (palatal) border of

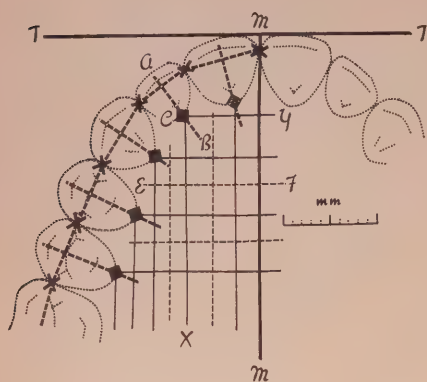


FIGURE 2

Explanation of reference points for construction of grids on photographs of casts. MM—Midline. TT—Transverse line at 90 deg. to midline, passing over the labial surfaces of the two central incisors. AB—Line bisecting at 90 deg. a line joining the mesial and distal contact points of each tooth. C—Intersection of AB with lingual border of tooth. CY—Line through C at 90 deg. to MM (see a, b, c, d, e, f, and g, Fig. 2). CX—Line through C parallel with MM (see A, B, C, D, and E, Fig. 2). EF—Example of supplementary lines drawn midway between lines based on the preceding reference points. Similar supplementary lines were drawn as illustrated, parallel with the midline.

(See Fig. 2, w, x, y, and z, X and Y.)

the tooth (Fig. 2). These basic reference points were then supplemented by the intersections of lines drawn from the medial points of each tooth (a) parallel to the midline and (b) at right angles to the midline, and further supplemented in areas of sparse coverage by additional lines located midway between them (Fig. 3). In this way a grid based on the reference points selected for the horizontal plane was constructed over each photograph, which already carried contour lines indicative of palate height over its entire area. Therefore, at each of seventy-two points of intersection on a grid over either side of each palate, it was possible (a) to

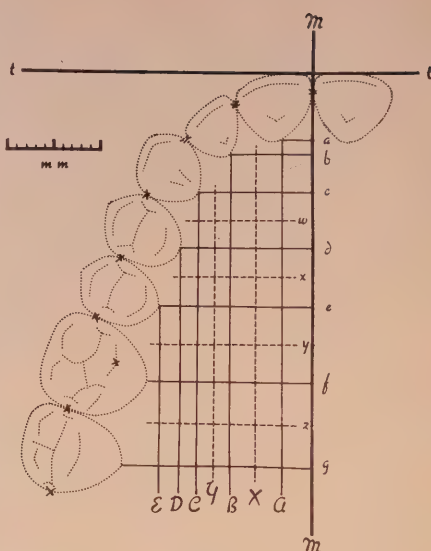


FIGURE 3

Grid of reference points to be marked out on photograph of each cast for measurements of palate height. MM—mid-line. TT—anterior transverse line. (For derivation of all reference points, see text and Fig. 3), Tables I and II utilize the identifying letters in this diagram.

measure dimensions in the horizontal plane (using the scale millimeters photographed beside the cast) and (b) to obtain readings of the palate height from the underlying contour lines.

Mean values for all these measurements are given in Tables I and II. All findings are believed to be correct within ± 1.00 mm., allowing for certain features of the technic such as the inevitable coarseness of the lines scribed on to the surfaces of the casts, and an error arising from photographic reproduction of features on planes of different lens-to-object distances.

The mean values for palate dimensions in the horizontal base plane (Table I) were used to prepare two large-scale drawings (for males and for females) of the grid of intersecting lines with their

TABLE I: MEAN DIMENSIONS
OF THE PALATE IN THE
HORIZONTAL PLANE

(See Fig. 3 for reference points)

(a) DISTANCES FROM ANTERIOR TRANSVERSE LINE (In Millimeters)

100 Males	Mean	S.D.	Range
To line a	7.45 mm.	0.82	5-9
" " b	9.08 mm.	1.03	7-12
" " c	13.34 mm.	1.35	10-16
" " d	19.47 mm.	1.81	14-23
" " e	25.93 mm.	2.10	20-31
" " f	34.28 mm.	2.53	27-41
" " g	43.39 mm.	2.83	35-52
" ML cusp 6	32.17 mm.	2.66	24-39
" contact 1,1	2.04 mm.	0.56	1-3
" " 1,2	3.69 mm.	0.73	2-6
" " 2,3	7.57 mm.	1.33	4-10
" " 3,4	13.77 mm.	1.79	9-17
" " 4,5	20.55 mm.	2.24	11-25
" " 5,6	27.12 mm.	2.36	19-33
" " 6,7	37.38 mm.	2.64	30-44
" distal 7	46.55 mm.	3.01	38-53
" line x	Half-way between lines d,e		
" " y	" " "	" " "	" e,f
" " z	" " "	" " "	" f,g
" " w	" " "	" " "	" c,d

50 Females	Mean	S.D.	Range
To line a	7.50 mm.	0.90	6-10
" " b	8.86 mm.	1.23	6-13
" " c	13.00 mm.	1.53	10-19
" " d	18.78 mm.	2.07	15-26
" " e	25.00 mm.	2.28	20-33
" " f	33.04 mm.	2.64	28-43
" " g	41.68 mm.	2.77	36-51
" ML cusp 6	30.74 mm.	2.70	25-39
" contact 1,1	2.00 mm.	0.28	1-3
" " 1,2	3.66 mm.	0.95	2-7
" " 2,3	7.30 mm.	1.50	4-13
" " 3,4	13.46 mm.	1.68	10-20
" " 4,5	19.78 mm.	2.27	14-27
" " 5,6	26.06 mm.	2.47	21-35
" " 6,7	35.78 mm.	2.87	30-45
" distal 7	44.70 mm.	3.09	39-56
" line x	Half-way between lines d,e		
" " y	" " "	" " "	" e,f
" " z	" " "	" " "	" f,g
" " w	" " "	" " "	" c,d

(b) DISTANCES FROM MIDLINE (In Millimeters)

50 Females	Mean	S.D.	Range
To line A	2.82 mm.	0.99	1-5
" " B	8.12 mm.	0.93	7-11
" " C	11.36 mm.	1.12	9-14
" " D	13.26 mm.	1.21	10-16
" " E	15.52 mm.	1.45	10-18
" lingual 6	17.02 mm.	1.64	12-20
" " 7	19.62 mm.	1.53	14-23
" ML cusp 6	20.16 mm.	1.95	14-23
" contact 1,1	0.02 mm.	0.58	0-2
" " 1,2	7.68 mm.	1.08	5-9
" " 2,3	12.80 mm.	1.14	10-15
" " 3,4	16.94 mm.	1.34	14-20
" " 4,5	19.62 mm.	1.68	13-23
" " 5,6	22.16 mm.	1.87	14-25
" " 6,7	25.02 mm.	1.70	12-28
" distal 7	26.82 mm.	1.72	22-31
" line X	Half-way between lines A,B		
" " Y	" " "	" " "	" B,C

100 Males	Mean	S.D.	Range
To line A	3.13 mm.	0.78	1-5
" " B	8.75 mm.	1.27	5-11
" " C	12.14 mm.	0.92	10-15
" " D	14.01 mm.	1.32	9-17
" " E	16.32 mm.	1.64	12-20
" lingual 6	17.59 mm.	1.67	13-22
" " 7	20.47 mm.	1.75	16-25
" ML cusp 6	20.96 mm.	1.90	16-26
" contact 1,1	0.03 mm.	0.73	0-2
" " 1,2	8.11 mm.	0.96	5-11
" " 2,3	13.61 mm.	1.16	11-17
" " 3,4	17.79 mm.	1.45	15-23
" " 4,5	20.69 mm.	1.63	16-25
" " 5,6	23.14 mm.	1.73	18-27
" " 6,7	26.02 mm.	1.78	20-31
" distal 7	27.91 mm.	2.18	20-34
" line X	Half-way between lines A,B		
" " Y	" " "	" " "	" B,C

TABLE II: MEAN DIMENSIONS
OF THE PALATE IN THE
VERTICAL PLANE(See Fig. 3 for reference points)
(All measurements in millimeters)

Palate Height At Points Indicated	Males (N=100)			Palate Height At Points Indicated	Females (N=50)		
	Mean	S.D.	Range		Mean	S.D.	Range
M,a	6.78 mm.	1.17	5-9	M,a	6.40 mm.	1.20	5-9
M,b	7.25 mm.	1.26	5-10	M,b	6.82 mm.	1.24	5-9
M,c	9.92 mm.	1.95	5-15	M,c	9.66 mm.	1.80	6-15
M,w	12.88 mm.	2.17	7-19	M,w	12.58 mm.	2.17	9-18
M,d	15.40 mm.	2.32	9-23	M,d	15.00 mm.	2.20	11-21
M,x	17.65 mm.	2.31	10-23	M,x	16.88 mm.	2.24	12-23
M,e	19.36 mm.	2.25	13-23	M,e	18.36 mm.	2.34	13-25
M,y	20.48 mm.	2.24	13-25	M,y	19.16 mm.	2.33	13-25
M,f	20.67 mm.	2.41	13-25	M,f	19.28 mm.	2.42	13-25
M,z	20.56 mm.	2.40	13-26	M,z	19.06 mm.	2.49	13-25
M,g	20.24 mm.	2.46	13-26	M,g	18.58 mm.	2.71	13-25
A,b	7.34 mm.	1.17	5-10	A,b	6.76 mm.	1.15	5-9
A,c	9.47 mm.	1.43	5-15	A,c	9.12 mm.	1.59	7-14
A,w	12.18 mm.	2.17	7-19	A,w	12.16 mm.	2.02	8-17
A,d	14.86 mm.	2.25	9-22	A,d	14.60 mm.	2.00	11-19
A,x	17.26 mm.	2.24	10-23	A,x	16.90 mm.	2.16	12-22
A,e	19.09 mm.	2.26	13-24	A,e	18.30 mm.	2.28	13-24
A,y	20.33 mm.	2.24	13-25	A,y	19.18 mm.	2.31	14-25
A,f	20.49 mm.	2.27	13-25	A,f	19.24 mm.	2.38	14-25
A,z	20.32 mm.	2.35	13-25	A,z	19.04 mm.	2.48	14-25
A,g	20.07 mm.	2.34	13-25	A,g	18.72 mm.	2.56	13-25
X,b	7.02 mm.	1.10	5-9	X,b	6.48 mm.	1.16	5-9
X,e	8.67 mm.	1.56	5-13	X,c	8.42 mm.	1.41	6-12
X,w	10.82 mm.	2.03	7-17	X,w	10.74 mm.	1.82	7-14
X,d	13.44 mm.	2.36	7-21	X,d	13.60 mm.	2.51	9-19
X,x	16.07 mm.	2.38	10-24	X,x	16.06 mm.	2.48	10-21
X,e	18.18 mm.	2.41	13-24	X,e	17.60 mm.	2.40	12-23
B,c	7.84 mm.	1.24	5-11	B,c	7.70 mm.	1.15	5-11
B,w	9.40 mm.	1.54	7-15	B,w	8.92 mm.	1.36	7-12
B,d	11.11 mm.	1.92	7-17	B,d	10.88 mm.	1.90	7-17
B,x	13.43 mm.	2.44	8-21	B,x	13.18 mm.	2.35	9-19
B,e	15.46 mm.	2.54	9-23	B,e	15.38 mm.	2.55	9-21
B,y	17.41 mm.	2.42	11-23	B,y	17.00 mm.	2.53	11-23
B,f	17.99 mm.	2.15	11-23	B,f	17.52 mm.	2.14	13-23
B,z	18.07 mm.	2.40	11-23	B,z	17.54 mm.	2.21	13-24
B,g	17.80 mm.	2.45	11-24	B,g	17.22 mm.	2.37	13-25
Y,e	13.29 mm.	2.29	9-20	Y,e	12.90 mm.	2.60	7-19
Y,y	14.94 mm.	2.34	9-21	Y,y	14.52 mm.	2.71	7-20
Y,f	15.91 mm.	2.35	9-22	Y,f	15.52 mm.	2.62	9-22
Y,z	16.42 mm.	2.39	9-23	Y,z	15.88 mm.	2.43	10-23
Y,g	16.43 mm.	2.38	9-23	Y,g	15.84 mm.	2.45	11-24
C,w	7.25 mm.	1.32	5-11	C,w	6.84 mm.	1.25	5-10
C,d	8.14 mm.	1.64	5-11	C,d	7.84 mm.	1.55	5-12
C,x	9.49 mm.	1.85	5-14	C,x	9.26 mm.	1.67	6-14
C,e	10.90 mm.	2.30	6-17	C,e	10.64 mm.	2.06	7-17
C,y	12.51 mm.	2.39	7-19	C,y	12.24 mm.	2.48	7-19
C,f	13.68 mm.	2.52	8-21	C,f	13.30 mm.	2.52	8-20
C,z	14.42 mm.	2.47	8-21	C,z	14.02 mm.	2.44	8-21
C,g	14.68 mm.	2.43	8-21	C,g	14.24 mm.	2.51	8-22
D,x	7.56 mm.	1.41	5-11	D,x	7.28 mm.	1.40	5-12
D,e	8.64 mm.	1.49	5-13	D,e	8.32 mm.	1.62	6-13
D,y	9.99 mm.	2.19	5-17	D,y	9.66 mm.	2.22	6-16
D,f	10.91 mm.	2.42	5-18	D,f	10.60 mm.	2.60	6-17
D,z	12.15 mm.	2.62	5-20	D,z	11.48 mm.	2.82	5-19
D,g	12.74 mm.	2.59	5-20	D,g	12.04 mm.	2.95	5-21
E,y	6.85 mm.	1.33	5-11	E,y	6.96 mm.	1.80	4-16
E,f	7.29 mm.	1.56	5-11	E,f	7.46 mm.	2.01	5-17
E,z	8.27 mm.	1.86	5-13	E,z	8.30 mm.	2.31	3-17
E,g	9.17 mm.	2.15	4-16	E,g	9.00 mm.	2.62	3-16

basic reference points. On these drawings the mean palate height was entered at each point of intersection (Table II) and the nearby locations which would correspond to even 2.00 mm. vertical increments were interpolated by measurement between intersecting lines. These locations were connected to produce contour lines each representing, as on the individual casts and photographs, 2.00 mm. increments of palate height. The grid of intersecting lines was then replaced with a background representing 2.00 mm. intervals in both dimensions of the horizontal plane; and the final step involved the introduction of tooth outlines located within the reference points (medial or palatal point, and mesial and distal contact points) for the position of each tooth. The tooth outlines were proportioned according to standard data for mean tooth dimensions^{3,10}, and it is interesting to note that the space permitted between the reference points proved to correspond exact-

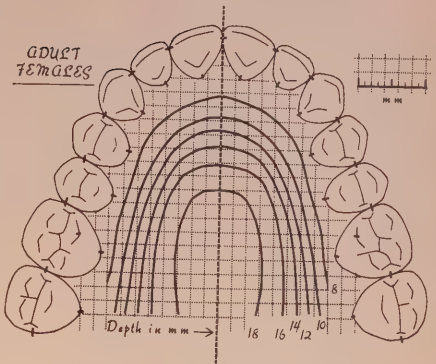


FIGURE 5

Adult females. Mean values for palate dimensions, shown by contour lines (solid lines) in 2 mm. increments of palate height, superimposed over a horizontal grid of 2 mm. squares (dotted lines).

ly to these tooth dimensions. The final drawings are reproduced in Figs. 4 and 5.

DIMENSIONS OF THE PALATE

The scale drawings represent an effective and clinically useful source of information, in terms of mean values, concerning the configuration of the adult male and female palates at any location within the palate area anterior to the third molars. They carry contour lines representing 2.00 mm. increments of height superimposed over a 2.00 mm. horizontal scale or grid covering the palate area. The mean palate height may be readily elicited at any distance and in any direction from any selected anatomical landmark such as the midline or any of the maxillary teeth.

Further development of these findings was undertaken in the production of master casts (for males and for females) constructed over exact reproductions of the areas within each of the contour lines, each 2.00 mm. in thickness and laminated one upon the other over a base plate

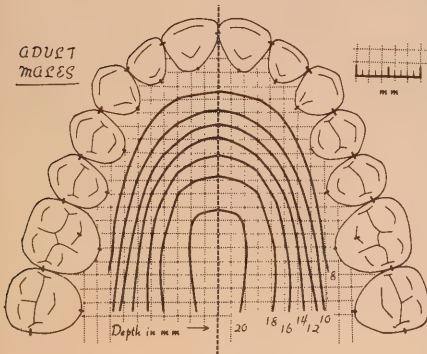


FIGURE 4

Adult males. Mean values for palate dimensions, shown by contour lines (solid lines) in palate height increments of 2 mm., superimposed over a horizontal grid of 2 mm. squares (dotted lines).

carrying markings according to the reference points for the positioning of teeth (Fig. 6). Into these positions were placed ivory teeth of confirmed average size^{3,10} properly located and inclined according to the best information available^{1,2,6,7,8}. The stepped palate forms were then smoothed over with wax and the master casts poured over the molds so formed (Fig. 7).

DISCUSSION

In addition to the intended potential value of the findings for study of problems related to intra-oral radiographic technic, the data should find direct application in the evaluation, development or reproduction of a variety of clinical technics or situations. The need is evidenced in part by errors customarily embodied in

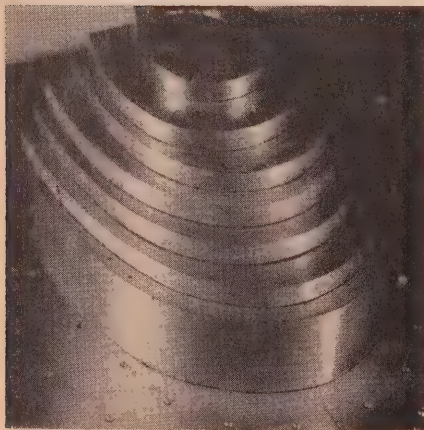


FIGURE 6

Laminated reproduction of the contour lines, with locations for the teeth marked out on the base plate. After correctly positioning teeth within these points, the stepped palate was smoothed over with wax and a master cast poured into the mold so formed (see Fig. 7).



FIGURE 7

Casts based on mean palate dimensions for adult males (left) and adult females (right).

diagrammatic representations of palate cross-sections^{4,5,9} and in the palate form of many "ideal" or "normal" models of the maxilla prepared for use in teaching and demonstration. These consistently fail to reproduce palate contours which incorporate even the limited criteria for palate dimensions previously available. It appears that a better understanding of the palate configuration could well serve, if we may suggest some instances, to assure more realistic models or manikins on which to accustom students to spatial relationships prevailing within the mouth; to enable the orthodontist to better correlate various facets in the diagnosis of malocclusions; to assist in the appraisal of speech problems; to support studies of stresses to which palatal denture bars are subjected within the mouth; to elucidate problems of access in operative dentistry; to provide better criteria against which palate variations may be measured for study of possible relationships to mouth-breathing; or to provide a basis for investigating the possibility of correlation between tooth root lengths and palate vault height. The palate is one of the limiting factors which confine the clinician throughout the practice of dentistry; its configuration deserves attention because

of its ever-present importance in clinical diagnosis and technic.

SUMMARY

Scale drawings based upon mean values for palate measurements in three dimensions have been presented as effective criteria concerning the configuration of the adult male and female palates in relation to adjacent or component anatomical features. Three-dimensional reproductions of mean palate contours have been prepared in the form of master casts of the palatal aspects of the maxilla and its teeth. Suggestions have been offered indicating opportunities for the application of the findings in the development of clinical technics and in the evaluation and reproduction of situations encountered in clinical practice.

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Gagging — A Problem in Prosthodontics

MR. MITCHELL LEVINE,* *Halifax, Nova Scotia*

The gagging, or more accurately, the vomiting reflex is of paramount interest to Dentistry of the Twentieth Century, and will be an increasing problem as Dentistry devises more techniques involving placement of more and more materials and instruments within the oral cavity of patients. Of particular note in this respect is the dental speciality of Prosthodontics, as will be revealed throughout this presentation. While Dr. Murray L. Schole approaches this problem and its management from sound physiologic and pharmacologic rationale, I will cover these points and expand into the rapidly progressing fields of Psychosomatic Dentistry and Hypnodontics, as regards gagging and its management.

A hypersensitive gagging reflex often prevents the dentist from carrying out critical procedures, or causes them to be performed at a less than satisfactory level. Also, once having suffered an unpleasant gagging experience in a dentist's office, the patients develop a fear of further visits to dentists. Thus, the gagging patient seeks to delay needed treatment or to avoid it entirely until it is too late for the dental therapy to exert its maximum beneficial effects.

NEUROPHYSIOLOGY

The gagging, or vomiting reflex is divided into various lesser ones:—the palatal, pharyngeal, vomiting, swallowing, and salivation reflexes.

This unconditioned reflex, present from birth, manifests itself in protection of a patent airway and the removal of noxious stimuli from the gastrointestinal tract, and is triggered by presence of a foreign body or a tactile stimulus.

The afferent pathway reaches the vomiting center, in the dorsal portion of the lateral reticular formation of the Medulla Oblongata, mainly via vagal and sympathetic fibers from the stomach and abdominal viscera. The intensity and function of this afferent pathway is controlled by many different variables and so we see a diversified manifestation of this reflex from patient to patient. Not to be overlooked in this respect is the psychological status of the individual. Efferent fibers are located mainly in phrenic, vagal, and sympathetic nerves, and impulses along this pathway cause the motorized projection and expulsion we know as gagging. The main point to bear in mind here is that both afferent and efferent impulses are conveyed along the parasympathetic routes of the autonomic nervous system, and as such, affect our selection of drugs where they are indicated in managing the gagging patient.

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AETIOLOGY

Gagging results from the irritation of sensitive areas in the posterior pharyngeal wall, the soft palate, the uvula, the fauces, or the dorsal surface of the posterior third of the tongue. The afferent impulses that provoke the reflex may result from tactile, visual, acoustic, olfactory, and psychic stimuli. The outflow from the nerve center in the medulla oblongata along efferent fibers causes the convulsive effort known as "gagging."

TACTILE STIMULUS

This is seen on digital examination, tongue blade contact, and periapical x-ray placement in the above-mentioned sensitive areas. Impression trays and materials, and denture bases themselves, are the greatest source of tactile irritation from the dentist's viewpoint. Inflammation and congestion of oral, nasal and/or throat mucosa can cause gagging, usually seen in children with bad colds. Postnasal drip in the nasopharynx is another type of tactile irritation, as in an accumulation of mucous and saliva. Patients with chronic sinus trouble are, from the dentist's viewpoint, the worst gaggers.

VISUAL STIMULUS

The sight of a dentist, his hand approaching the patient, empty, with a mirror, a tongue blade, or an empty impression tray may precipitate the gagging crisis; to say nothing of the sight of a tray full of impression material. Even to the extent, states Landa, that a deaf patient seeing another patient gagging, had his own reflex stimulated.

ACOUSTIC STIMULUS

This, as we are all aware, is mainly the hearing of someone nearby gagging, such being capable of starting a chain reaction among a group of people.

OLFACTORY STIMULUS

The smell of tobacco on a dentist's hands approaching the mouth may start a patient gagging, or even the smell of a plaster material or the tarry odour of some compound impression materials (possibly along with the visual stimulus where the material is black). To the opposite extreme, a "well-scented-down" dentist may not be too appealing to the patient.

PSYCHIC STIMULUS

Here, says Landa, is the majority of patients that present with gagging. Mr. R. C., age 43, a patient at the Dalhousie Dental Clinic, presented as a chronic and severe gagger, and so severe is this man's gagging reflex that he cannot wear a necktie without entering acute convulsive spasms of gagging. As with this patient, Landa states his experience with a patient who could not rinse her mouth without gagging. Shaw discusses a case of gagging reflex precipitated partly by "distasteful and abhorrent sexual demands," another psychological extreme. The uninformed patient may have such thoughts as to provoke gagging while anticipating a dental appointment. The patient whose psychologic balance has been traumatized by improper dental procedures, such as I will discuss under impression technique, may only have to think of dentistry to precipitate a gagging spasm.

DIAGNOSIS

While understanding the aetiology helps in determining a correct diagnosis, I will mention a few specific considerations to be noted in the diagnosis of gagging:

- 1) Parasympathetic impulses arising from other than gastrointestinal tract. Included here is severe pain, regardless of its site, strong emotion, or impulses arising in the organs of special sense, may cause vomiting.

2) Chemical Irritation—Chemical irritants, such as tartar emetic, mustard, ipecac, and copper and zinc sulphate, act upon vagal or parasympathetic afferent terminals in the gastric mucosa, and may cause vomiting.

3) Complete Denture Patient—Lack of retention, poor occlusion, incorrect vertical dimension, and insufficient posterior palatal seal are contributing factors. The psychogenic factor also plays an important part in gagging during use of dentures.

Difficulty in swallowing with the denture in place stimulates salivation and, consequently, the vomiting or gagging reflex. Deglutition is thought to be a two stage process. In the first stage, which is voluntary, a bolus which has been transformed into a mass by mastication is brought into position on the dorsum of the tongue. The lingual muscles cause it to be rolled backward to the base of the tongue just in front of the isthmus of the fauces. Then the mylohyoid muscle contracts, and the tongue is pressed against the hard palate. The second stage which is guiding the food through the pharynx, is not under voluntary control and is in no way affected by the prosthesis. And so in regard to the tongue space, if insufficient space either in vertical dimension of occlusal or contraction of the dental arch lingually or anteroposteriorly causes the tongue to be in an abnormal position, gagging will result!

THERAPEUTIC MANAGEMENT

Many attempts are made to treat gagging by local drugs, but when considering aetiology, it suffices to recall the type of stimuli producing gagging to realize that the trouble lies mostly in the realm of the patient's mind. It is there that it must be arrested, and the problem is to minimize the origin of the stimulus. While this is Landa's feeling, Schole feels that if the essentials of maximum retention and adequate vertical dimension, a sufficient posterior palatal seal, a balanced occlusion,

and a correct interocclusal distance are met, then drugs may be used effectively as adjuncts. Let us justify these viewpoints for respective authors. Of course Landa is discouraged in drug usage and it is because of the drugs he uses as adjuncts:

a) Swabbing the sensitive areas with a topical anaesthetic. Limitations are that there is a maximum concentration of drug to be used, it may anaesthetize the pharynx with possible aspiration of plaster and other materials, and the drug may produce toxic effects due to rapid absorption into the vascular bed through the oral mucosa.

b) Local Anaesthetic Injections at the Posterior Palatine Foramina.

Two objections:

1) Attempting injection may cause gagging, and

2) The tissues are distended greatly and the impression will no longer reproduce normal oral conditions in the important post-dam area. Schole points out that topical (and local) anaesthesia may actually increase nausea and vomiting because the sensation of numbness produced in the sensitive palatal and pharyngeal areas may be sufficient to excite the vomiting reflex. It is of concern also to the exodontist, who, in attempting anterior palatine foramina blocks, may not find his landmark or deposit too much anaesthetic agent with block of fibers from posterior palatine foramina, and the result may be that the patient will start to gag.

But, as mentioned before, recall that the nervous system hookup for this reflex is related to the parasympathetic nervous system, and so Schole jumps from biomechanics, barely concerning himself with the psychic component, right into depression of the parasympathetic system. He states that a limitation of skill and experience be used in hypnodontics, and I feel that a similar limitation should be put on his suggested therapy and that it should be conducted under the guidance of a qualified medical practitioner in best patient interest and dentist protection. Examples of depressants of the parasympathetic system are:

a) *Sedatives*—Any of the Barbiturates.

b) *Antihistamines*—Response to dimenhydrinate and meclizine hydrochloride or others used in prevention of motion sickness.

Since these do not reduce salivation, they are of little value for patients whose nausea stems from the increased sensitivity of the vomiting reflex induced by excess saliva.

c) *Parasympatholytics* — The atropine series will depress salivation and inhibit the vomiting reflex. Combinations of hyoscine, hyoscinamine, and atropine with a sedative are quite adequate when a short procedure is necessary, or during the initial period of use of new dentures.

d) *CNS Depressants*—In very difficult gaggers, or as a temporary measure, some of the newer CNS depressants are employed. Postoperatively in general anaesthesia are the main usage of these drugs, best known of which is Chlorpromazine (Thorazine) which also has important tranquilizing properties.

PARTIAL SUMMARIZATION

Briefly allow me to summarize before going on further into psychosomatic dentistry and hypnodontics. To date I have outlined the neurophysiology of the gagging patient and attempted explanation of the aetiology which I will consider now as a listing which the dentist can use as a guide to diagnosis:

1) Can the patient's gagging be reflected back onto poor handling on the part of the dentist? This goes back to the sound and basic principles on which and by which we approach the patient and carry out our necessary procedures. In regard to this point, I ask you to show concern with the article "Impression Technique for Patients that Gag" which appeared in the *Journal of Prosthetic Dentistry*, May-June, 1959. The author presents a technique only, for taking an impression of a gagging patient. No mention is given to cause. While I find that the

procedure could be most fatiguing to the patient, I would be willing to surpass this point in favour of the operator's ability to handle both materials and patient during impression taking, and pass on to consider the aftermath. Even with adequate assurance on the part of the dentist, a psychological barrier is being established in the patient who questions, "Will I gag when the denture is in place? If things in my mouth, and he is a careful dentist, make me gag, there must be something wrong with me." My criticism of the paper to which I refer is that one should understand the cause of aetiology of the particular gagging situation and eliminate it before impression taking, especially when the particular technique stimulates, rather than obviates gagging. I leave this thought with you, but be sure firstly to disqualify yourself as the cause of the patient's gagging reflex. A good set of rules in considering the impression would be (and this applies to situations of non-gaggers whom we are trying to keep from initial gagging through impression-taking, which could have disastrous results if initiated at this time):

a) Select upper trays which fit the palate vaults as closely as possible.

b) Use as little impression material as is possible, so as not to have excess get on the posterior third of the tongue or gain the fauces.

c) In all cases susceptible to gagging, as soon as the impression tray has been introduced into the mouth, the patient should lean considerably forward with head bent downward so that the saliva escapes freely from the oral cavity. This will obviate the tactile irritation of mucous coming into contact with sensitive areas.

d) Slight anaesthesia of tissues may help and this may be brought about by sucking on ice chips just prior to inserting the impression material into the oral cavity. Ethyl chloride should never be used for this purpose as the patient may be anaesthetized, gagging may be started by the anaesthetic spray, and there is a

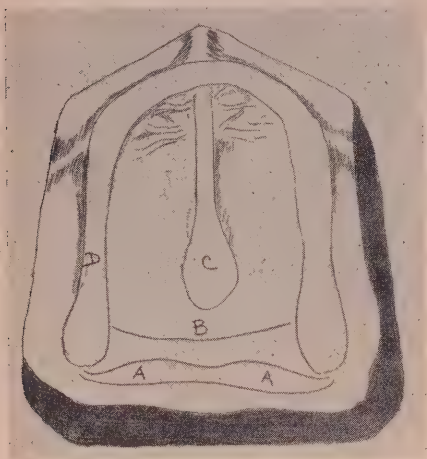


FIGURE 1

possibility of inducing respiratory tract infection.

e) The upper denture should have a slightly deeper post-dam than that of the average upper denture to eliminate the tickling sensation of a loose posterior border.

f) Landa considers scientific outline as follows:

Figure 1. is shown here as a secondary line of defence, preventing air from getting beneath the denture and resulting in a tickling sensation caused by a loose posterior denture border. Figure 2. is the area of greatest sensitivity, and is adjacent to the fovea palatinae. This area in the hypersensitive is not covered, but outlined by the posterior denture border in a tortuous pathway. The post-dam area is along line area A. In these illustrations, C is torus palatinus, and D is the crest of the edentulous maxillary ridge.

2) Secondly, can you attribute the patient's gagging to an organic disturbance? Proper history taking and patient evaluation by the Dentist are important. If the patient does have a physical disfunction, he should be referred to a Medical Practitioner in best interest of patient and Dentist.

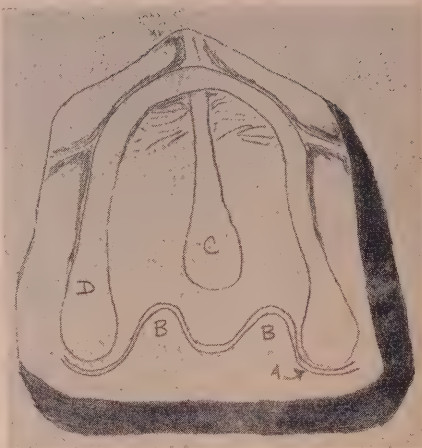


FIGURE 2

3) If the patient wears dentures, is the prosthesis of sound biomechanical construction? The factors here that must be of precision accuracy are: maximum retention and extension within physiologic limitation, proper occlusion, correct vertical dimension of occlusion and at rest (interocclusal distance), and sufficient posterior palatal seal.

4) having eliminated these previous three factors, the fourth question is psychological in nature, and will be dealt with after mentioning the last point.

5) Has the gagging problem a single aetiologic aspect, or is there a combination of factors?

PSYCHOSOMATIC DENTISTRY AND HYPNODONTICS

Basic concern here falls into two types of patient: A) the patient who has a hypersensitive gagging reflex and is a candidate for a prosthetic restoration, and, B) the patient who has survived to the point of having dentures made that are sound biochemically, but is now gagging where this reflex was not prevalent in his treatment up to this point. Both of these I feel can be treated similarly. A

basic psychological approach or good bedside manner, and patient education are important to eliminate misconceptions that patients have. Proper patient evaluation by a question-answering session can help. Swenson suggests the following: "How is your general health? Are you a nervous person? Are you easily discouraged? How long have you worn your old dentures, if you have worn them? Were you pleased with the former ones? In what manner did they trouble you?" A good question would be, "What do you expect of a set of dentures?" The patient's reply could tell an interesting story from which some problems as gagging may be anticipated by the Dentist, and looked after.

It is fine to say, "Well, let us turn to Hypnodontics." Let us consider what results can be expected. If the case is one of strong misconception or slight hypersensitivity of those trigger zones referred to earlier, then hypnosis may be effective, but when you come up against a case such as Shaw points out, as in Case 6, one realizes that when a group of psychological factors are combined and some go back to patients' early history, the psychiatrist is the only man to turn to. He must delve into the patient's psychic constitution and reveal a personality that may be sheltered to the Dentist who has attempted Hypnosis only superficially and unsuccessfully to abolish a deep seated neurosis. Cases of this nature are presented by Collett and Briggs who found gagging stimulated by dentures had important psychological implications. When not the denture, the gagging and resultant inability to wear dentures seems to serve a worthwhile purpose for the patient; he receives a secondary gain from this disorder. Here is how patients' neurotic needs were being met by their relations with the Dentist. Problems emanating from inability to cope with authority relationships were prevalent in one patient. His feelings were thus transferred to the Dentist. In another, an over-compliance and submissiveness to the dentist were apparent, and in a third

patient an overdependency on the mother resulted in Dental difficulties similar to those of the mother. All three of these cases presented with gagging from dentures.

Moss and Dorcus both deal with hypnotic technique and both are concerned with elimination of the gag reflex. Moss has one approach which anaesthetizes the hypersensitive zones, and procedures can be done with the patient either under hypnosis or by posthypnotic suggestion. Both Moss and Dorcus discuss a "breathing exercise" method of hypnotic control of the gagging reflex. The extreme limitations of this therapeutic procedure are due to the fact that many patients cannot be subjected to hypnotism readily, and not many Dentists are skillful in its administration.

In concluding I need only to say that where as it seems to be generally accepted that gagging in prosthodontics is mainly a psychological function, we should stand ready to meet this problem by approaching it with a scientific mind, keeping rationale as the forerunner of our guiding light.

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Dalhousie University

Junior Red Cross Contributes to Dental Treatment

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It is a pleasure to record a little known contribution by the Junior Red Cross, to the health and comfort of children at a number of northern outposts of the Province of Saskatchewan. Isolated for much of the year and far removed from the nearest dentist, several hundreds of children, mostly metis, suffer almost-universally from dental ailments, just as do children in the more settled areas. Dental care, in the accepted sense being unavailable, these children suffered pain, abscesses and unnecessary tooth loss, and worse still in the end, had to submit to the ministrations of unskilled, though doubtless sincere persons, both lay and professional.

With the release of funds, no longer required for other purposes, the decision was made to try to obtain the services of a dentist to conduct regular clinics bi-annually at Cumberland House and Ile a la Crosse. Equipment was donated or purchased and established in suitable quarters, several dentists co-operated in this venture and were flown in or transportation otherwise arranged. A budget to cover five years of operation was adopted by the Junior Red Cross executive with the writer agreeing to act in a consultative and advisory capacity. As the end of the five year period approaches it is appropriate to evaluate the program with a view to its continuation and also to acquaint those, whose contributions support the Red Cross, with results achieved.

At this point it seems appropriate to

mention one or two aspects not too often recognized in connection with programs of this nature. First, by its very nature, dental decay in childhood is continuous from the age of three up into the late teens and even after. Unlike many other diseases, one attack, or treatment of all lesions at any one time, does not prevent recurrence or avoid the necessity of regular periodic dental supervision. Second, and this applies to an individual privately responsible for maintaining his own dental health and that of his family as well, as to any public endeavor supplanting the individual, each year there is a new "crop" of children coming into the picture.

Having had an opportunity to visit and inspect one of these localities, it can be said that the major objectives have been attained. Oral health of the children has been vastly improved and even more surprising the appreciation of the service proffered is clearly evident by the high percentage of coverage obtained. It is obvious to those in the know that one of the greatest deterrents to preventive dental care is the reluctance, often even the refusal of children to submit to the procedures necessary to preserve teeth, unless and until driven to do so by the ultimate motivation of pain.

And, what of the cost? Analysis of the cost per child for the 1959 spring clinics the fourth in succession conducted at Cumberland House and Ile a la Crosse, reveals costs of \$6.47 and \$6.63 respectively for 160 and 156 children. By comparison with estimated costs for maintenance dental care, arrived at from numerous surveys of children all across Canada, this

*Director Dental Services, Dept. of Public Health, Saskatchewan.

is indeed a modest figure. Furthermore, from an educational standpoint, these children in their response to the teaching of oral hygiene and dietary control of dental diseases, can very favorably be compared to any other similar group elsewhere. Perhaps a comparison in this respect would even favor these children for it must be acknowledged that in their isolation they do not suffer the exposure to propaganda and temptation that children elsewhere do. Reference, of course, is made to the widespread habit of indulging in taste luxuries of various kinds, known to be harmful to Dental Health.

In summary it can be said that these clinics have been well worthwhile in terms of cost as well as benefits received. Appreciation must be expressed for the work of the dentists involved. Quality of service has been high, although at times working conditions have not been ideal. Nurses and other staff, including teachers, have co-operated to the utmost. Adults in these communities have received emergency services, which otherwise were unavailable.

It is trite to say, that in terms of appreciation the beneficiaries of these clinics

have not been highly vocal, for this is common to all health programs. Dividends are for the future in terms of a healthier, happier, and more understanding adult population. Health and education go hand in hand as our society struggles upward to a higher standard for all. To prevent is more to be desired than cure and in the ultimate is the objective of all public health programs.

Despite all difficulties, these clinics, which have been operated on behalf of what might be termed a closed group (unaffected to any extent by migration or immigration), provide another proof that regular dental care pays off and is appreciated.

The Junior Red Cross is to be commended for this effort. It is to be hoped that ways and means can be found to continue in the future. Five years is a very short time in the life of a child. From a dental viewpoint it is only an episode amounting to less than 10% of the life expectancy of a set of human teeth. The experiment has been successful in attaining its major objective. For this reason it can no longer be regarded as an experiment. Quo Vadis?

Provincial Health Building

"How easily, how secretly, how safely in books, do we make bare without shame the poverty of human ignorance! These are the masters that instruct us without rod and ferrule, without words of anger, without payment of money or clothing. Should you approach them they are not asleep; if you seek to question them they do not hide themselves; should you err, they do not chide; and should you show your ignorance, they know not how to laugh. O Books! You alone are free and liberal. You give to all that seek and set free all that serve you zealously."

—Richard de Bury
about 1350 A.D.

ABSTRACTS

Use and Abuse of Antibiotics in Dentistry

EDWARD J. DEGNAN, D.D.S., Albany, N.Y.

It is a well recognized fact that there has been a gross abuse of antibiotic therapy in the last decade. That the dental profession has also been culpable is a fact that must be recognized if a realistic appraisal is to be made of current trends in therapy.

To point up the abuses, an example can be cited. A patient had been on tetracycline therapy for a month for "chronic gingivitis". Examination of this mouth showed gross calculus deposits with no periodontal therapy as yet being initiated.

Oral Surgery

The important question of when antibiotics are not needed will be discussed first.

1. *Chronically abscessed tooth.* An otherwise healthy individual with a chro-

nically abscessed tooth with periapical involvement can be treated simply by extraction of the offending tooth. Whether incision and drainage are necessary is up to the surgeon but certainly this surgical intervention will not necessitate a course of antibiotics. An uneventful recovery can be anticipated.

2. *Acute pulpitis.* The pain associated with acute pulpitis is most severe in many instances, but antibiotics are not going to reduce the pain. The patient's primary need is for analgesics, not for antibiotics.

3. *Cyst and impaction surgery.* When there is no evidence of infection such as elevation of temperature and of the white blood cell count and regional lymphadenopathy in an otherwise healthy person, there is no reason for the routine use of antibiotics in cyst or impaction surgery. Only in the presence of secondary infec-

tion is the dentist justified in starting antibiotic therapy.

4. *Pericoronal infections.* When the pericoronitis is either mild or chronic in nature, response is most rapid to local conservative care, without the use of antibiotics locally or systemically.

5. *Facial fractures.* Whether it is necessary to use antibiotics when facial fractures are present is entirely dependent on the type of fracture. By and large, condylar and subcondylar fractures and fractures of the ascending ramus are not compounded and will respond to conservative treatment without antibiotics if no open reduction is contemplated.

6. *Localized osteitis.* Probably more drugs have been used for dry sockets than can be imagined. I feel certain that there is no report in the dental literature to show that antibiotics applied either locally or systemically have ever hastened the healing process or diminished the pain associated with dry sockets.

Just as the contraindications for antibiotics are clear, equally clear and well defined are indications for the use of these drugs.

Definite indications for the use of antibiotic therapy in oral surgery are as follows:

1. An acute dentoalveolar abscess is a serious surgical problem, especially when accompanied by fever and a white blood cell count elevation. The possible serious complications resulting from this type of infection are well known. This clinical entity requires prompt treatment, especially from the point of view of antibiotic therapy, and, conditions permitting, prompt surgical intervention.

2. *Acute pericoronitis.* The same course of therapy is used for an acute pericoronitis associated with elevation in temperature and white blood cell count, regional lymphadenopathy and possible trismus.

3. *Facial fractures.* Certainly any compound fracture of the maxilla or mandible should receive prompt antibiotic care.

When the word "compound" is used, it must be made clear that this includes any fracture that goes through an alveolus.

4. *Osteomyelitis.* A proved case of osteomyelitis of the facial bones demands prompt and relatively long-term treatment with antibiotics.

5. *Accidental perforation of maxillary sinus.* It has been found that the use of prophylactic and broad spectrum antibiotics after antral perforation during oral surgical procedures will minimize the danger of maxillary sinusitis.

Endodontics

Statistical evidence such as that presented by Buchbinder and Appleton makes it difficult to contest seriously the fact that the percentage of success is greatly increased by the addition of culture-taking to an otherwise sound technique. Cultures will reveal such a variety of organisms that no single antibiotic is effective against all of them. It is because of this that the polyantibiotic paste recommended by Grossman has been used with success. However, Smayda feels that local antibiotics have no great advantage over standard nonantibiotic sterilizing agents. He feels that a meticulous instrumentation is the single most important factor.

Periodontics

Much of what has been said about the use of antibiotics in surgery and endodontics applies to periodontics as well. What is needed in acute and chronic gingivitis, periodontitis or periodontosis is a careful examination of the patient, an adequate diagnosis and good periodontal therapy. Again, all the antibiotics at the dentist's command will not remove calculus, clean bony pockets, or correct a faulty occlusion.

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Luncheon-Speaker: The Rt. Hon. John Diefenbaker

C.D.A. President's Dinner Dance

Fun Nite featuring Square Dance Exhibitions

EDITORIAL

Dentistry's Decision

In the opinion of the dental profession there is no such thing as poor dentistry for poor people. This however may become a real situation if self-created dental treaters possessing only a professed dedication to serve, find their way into the mouths and pocket books of a credulous Canadian public.

Canadian dentists are completely aware of the magnitude of patient needs. In order to consider these matters both provincially and nationally, for the first time in the history of the Canadian Dental Association, secretaries of the 10 provincial or corporate bodies met at C.D.A. headquarters during the second week of January 1960. Their sincere deliberations resulted in a pooling of their knowledge in order to strengthen and increase the ability of Canadian dentists to meet their demands. These men, chosen by Canadian dental practitioners, when speaking, voiced the feelings and concerns of the dentists whom they represented.

The British Columbia, Alberta, Saskatchewan and Manitoba secretaries reviewed the dental situations in their respective provinces and a similar pattern was revealed in each report. Illicit denture producers were the first indications in each of the western provinces that the newest socio-economic trends

were being exploited. After years of undercover manoeuvring these people have become more and more bold until now they flaunt their previous transgressions of the law as current evidence of the need for their existence.

From Ontario eastward (including Ontario) these initial signs are in evidence. No province is without its illegal denture incidents as far east as Newfoundland. Does this mean that each province will ultimately be faced with the acute situation now faced by the western provinces? No one knows for sure but a reasonable guess would be in the affirmative. In short Canadian dentistry knows that the public is seeking or willing to accept graded dental treatment as a compromise for treatment by thoroughly trained dentists.

Our social and economic structure is rampant with this creeping thing that offers more and more inclusive health care under government sponsorship, thereby creating the illusion that we are receiving health care as a right and presumably for nothing. In principle, of course, it is impossible to argue against the observation that everyone is entitled to equality in health care. But in the cold light of experience and reality such total idealistic measures are not without their

flagrant shortcomings. Lowered standards of treatment, ever mounting tax costs and perforce the unbearable strain on health personnel to cope with those who are merely enjoying their rights, are but a few of the flaws. When these plans are in effect, the voter having made his bed must try to enjoy it while those in the health field can only look on helplessly.

Canadian dentistry is perplexed but is not crying hurt pride, for this situation is the direct product of our social and economic structure. Although we may not agree with these changes, we are however aware of the necessity of adjusting to them in ways that will safeguard public dental health. We know that if changes are forced upon us, those whom we are dedicated to serve will be left wanting. We know further, that if granted a reasonable opportunity, our profession can extend its services and still preserve the integrity of treatment.

Intensive study by the dental profession is being given to the competent and broader training of auxiliary personnel who could under the responsible direction of the profession, appreciably extend

dental services without loss of quality.

Naturally time to plan and teach and train such personnel would be vital to the success of any such major change. The development and employment of auxiliary personnel in a satisfactory manner must be accomplished by the most highly qualified trained dental personnel if the public's best interests are to be served. If the dental profession is granted a reasonable opportunity to provide for the dental needs of the Canadian public, there is no doubt that these needs will be met more satisfactorily, more efficiently and more economically. If the health services are forced in haste, to yield to changes in the character of their service, there is a grave fear that the public will regret at leisure.

If augmenting dental personnel is a practical and intelligent answer to the public needs, then this conclusion will be reached by Canadian dentists and put into effect with all reasonable haste. Meanwhile ripping portions from dentistry and handing them willy-nilly to untrained outstretched hands may prove to be politically strategic but will likely be devastating to dental health.

This Stuff Called Integrity

Editorial Note: The following guest editorial by Dr. A. E. Swanson appeared in The Mirror, published by the Vancouver and District Dental Society. It is reproduced here in order that more of the readers of the J.C.D.A. may share his remarks.

Few words are bandied about more these days by intellectuals and pseudo-intellectuals than is the word "integrity". It is used in numerous connotations. The artist may use it in terms of his product. The banker may use it in reference to one of his clients. The speculator may

use it in reference to the executive of an industrial firm. The clergyman has a meaning for it that is probably the most common one. But common though it is, defining it becomes a challenge.

The health professions have a place for this word in their vocabulary too. And when it becomes limited to the health professions defining it becomes easier. For suddenly comes the realization that it is very closely related to words like truth, dependability, reliability and honesty. And words such as these should be commonplace in describing the character of the dentist in his professional community. The dentist exhibits this feature when he charges a fair fee for services rendered; when he informs his patient that the marginal ridge of his two-surface amalgam restoration has become dislodged during the carving-in of the anatomy and will have to be redone; when he alerts the patient to the fact that the root tip he was instrumenting

for has disappeared into the sinus and will require further surgery; when he tells the patient that the particular service required by the patient is beyond his capabilities and refers the patient on to the appropriate man; when he admits to his confreres, unashamedly, that not all of his professional endeavours are successful. The dentist who does these things has integrity. He may not be as popular or as well-known as some of his more voluble colleagues. But he enjoys a quiet contentment, a peace-of-mind beyond all understanding. He is the very warp and woof of professional fabric. He commands respect and he bestows respect where it is deserving. He gives strength and stature and solidarity to dentistry.

If any one thing is required of our profession in order to endure and in order to enjoy a state of good public relations health, it is integrity. Let us all try to be the possessors of a piece of this stuff.

THE LIBRARY

ADDITIONS

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THE ASSOCIATION

Federal Income Tax Returns by Members of the Dental Profession

For guidance to the dental profession and to bring about a greater uniformity in the data to be furnished to the Taxation Division of the Department of National Revenue in the annual Income Tax Returns to be filed, the following matters are set out.

INCOME

1. There should be maintained by every member of the dental profession an accurate record of income received, both as fees from his profession and by way of investment income. The record should be clear and capable of being readily checked against the return filed. Records should be maintained in books kept for the purpose which should be retained until written permission for their disposal is obtained from the Minister of National Revenue.

EXPENSES

2. Under the heading of expenses the following accounts should be maintained and records kept available for checking purposes in support of charges made:

- (a) Dental and like supplies.
- (b) Office help, nurse, bookkeeper, laundry and malpractice insurance premiums. Amounts of salaries and wages paid should be reported on Form T4, obtainable from your District Income Tax Office. (The Income Tax Act does not allow as a deduction a salary paid by a husband to a wife or vice versa. Such amount, if paid, is to be added back to income.)
- (c) Telephone expenses incurred in connection with professional practice.
- (d) Assistant's fees:

The names and addresses of the assistants to whom fees are paid, and amounts paid, should be furnished on or before the last day of February in each year on Form T4. (Do not confuse with individual return of income, Form T1, to be filed on or before 30th April in each year.)

- (e) Rentals paid:

The name and address of the owner (preferably) or agent of the rented premises should be furnished. (See (g).)

- (f) Postage and stationery.

- (g) Proportional expenses of dentists practising from their residences:

- (a) Owned by the dentist:

Where a dentist practises from a house he owns and as well resides in, a proportionate allowance of house expenses will be given for the laboratory, office and waiting room space, on the basis that this space bears to the total space of the residence. The charges cover taxes, light, heat, insurance, repairs, and interest in mortgage. (Name and address of mortgagee to be stated.) Note: For depreciation see item 2 (1).

- (b) Rented by the dentist:

The rent will be apportioned and heat and light if paid by the dentist; the owner of the premises takes care of all other expenses mentioned in (a) above.

- (h) Sundry expenses (not otherwise classified):

The expenses charged to this account should be capable of analysis and supported by records.

Claims for charitable donations will be allowed up to 10 per cent of net income from all sources upon submission of receipts to your District Income Tax Office. Charitable donations made through professional practice should be excluded from professional expenses and claimed as a deduction from income generally, along with any donations made otherwise.

The annual dues paid to governing bodies under which authority to practice is issued and membership association fees, to be recorded on the return, will be admitted as a charge.

The cost of attending post-graduate courses will not be allowed.

- (i) Interest paid on borrowed money may be charged against professional income if the borrowing was for professional purposes. If the money was borrowed to acquire investments, the interest is chargeable against the investment income. If the loan was for personal purposes no deduction from income will be allowed for the interest paid thereon.
- (j) Business tax will be allowed as an expense but income taxes will not be allowed.
- (k) Automobile expenses:

Taxi fares and automobile expenses incurred in earning the income from the dental practice will be allowed when the dentist must visit the patients at their homes. The cost of transportation between the dentist's home and his office, however, is not an allowable deduction from income.

- (l) Capital Cost Allowance (Depreciation):

A description of the treatment of capital cost allowance may be found on page four of the Income Tax Return form T1 General under the Part XI Method and in the T1 General Information Sheet.

The method of computing capital cost allowance for tax purposes is the same as that used last year and you should have no difficulty if you have a copy of last year's return available.

Simply carry forward the balance remaining in each class after deducting last year's allowance. Add to this figure the cost of any new equipment purchased and deduct the proceeds from any disposal of property in each class. The rate you wish to use not exceeding the maximum rate (see below) is applied to this new balance for each class to obtain the capital cost allowance you may claim this year.

The schedule on page four of the Income Tax Return is reproduced:

SCHEDULE

(1) Class Number	(2) Undepre- ciated Capital Cost at Begin- ning of 1959 (Col. 8 of 1958 return)	(3) Cost of Additions During 1959	(4) Proceeds From Disposals During 1959	(5) Undepre- ciated Capital Cost Before 1959 Al- lowance (Col. 2 plus 3, less 4)	(6) Rate %	(7) Capital Cost Allow- ance For 1959	(8) Undepre- ciated Capital Cost at End of 1959 (Col. 5 less Col. 7)
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The maximum rates for the classes of equipment most used by dentists follow:—

Assets	Class	Maximum Rate
Dental Equipment including instruments each costing \$50.00 or more	8	20%
Instruments costing less than \$50.00	12	100%
Office Furniture & Fixtures	8	20%
Frame Building (office or residence used both as dwelling and office)	6	10%
Brick Building (office or residence used both as dwelling and office)	3	5%

Instruments costing less than \$50.00 each belong in class 12 and have a maximum allowance rate of 100%. They should not be included in expenses but should be recorded as additions in column 3 of the schedule.

Where a dentist practises from a house which he owns and resides in, the allowance may be claimed as above on a portion of the cost of the residence, excluding land. For example if the residence were a brick building costing \$12,000.00 and one-third of the space were used for the office, the dentist would use \$4,000.00 as the business portion of the cost and apply the building rate of 5% to determine the maximum depreciation allowable in the first year.

For further information on the subject you may refer to the Regulations or you may consult your District Income Tax Office.

CONVENTION EXPENSES

Convention expenses are allowable to an individual practising a profession, but the allowance is restricted to the expense of attending no more than two conventions in a taxation year. The taxpayer's attendance

at the convention must have been for professional reasons. There are no geographical restrictions and the convention, therefore, need not necessarily have been held in Canada. The expenses to be allowed must be reasonable and the taxpayer should show:

1. The dates on or between which the convention was held, and the location thereof;
2. The number of days he was present at the convention, supported by a certificate of attendance from the sponsoring organization; and
3. The expenses incurred, segregating
 - (a) Transportation expenses
 - (b) Meals, and
 - (c) Hotel expenses, for which at least vouchers should be obtained and kept available for inspection.

All expenses of a personal nature including those attributable to the fact that the taxpayer's wife (or husband) accompanied him to the convention must be excluded from the foregoing.

No expenses for attending a convention are allowable as a deduction from salary income, since such a deduction is prohibited by Section 5 of the Act.

REGISTERED RETIREMENT SAVINGS PLANS

The amount that is deductible in respect of contributions to a retirement savings plan is limited:

- (a) In the case of an employee receiving a salary who is covered by an employer-employee pension plan to the lesser of \$1,500 or 10% of his earned income; and
- (b) in other cases to the lesser of \$2,500 or 10% of his earned income. "Earned income" usually consists of income received as salary (before any pension deductions) or income from carrying on a business or profession, plus net rental income.

The amounts deductible are those paid in 1959 and within 60 days after the end of the year. A payment made in January or February 1959 cannot be claimed in 1959 if it could have been deducted in 1958.

Individuals enquiring whether a proposed or existing plan is acceptable should usually obtain that information from the corporation offering the plan as it will normally be the corporation's responsibility to explain the plan and get it registered.

Dentists who have applied for membership in the Canadian Dental Association Retirement Savings Plan prior to February 15, 1960, may be assured that their names are registered as participants in a registered retirement savings plan and that their contributions are deductible for the taxation year

1959. The closing date for applications and contributions applicable to 1959 is February 15, 1960.

A personal statement of account and a receipt showing the amount of contributions will be mailed in March 1960 to each participant to support claims made for deductions in 1959 income tax returns.

Applications for membership in CDARSP received after February 15, 1960, will entitle participants to tax deferment for 1960.

PAYMENT OF TAX

3. Payment of Tax. Individuals whose income is more than 25% derived from sources other than salary or wages are required to pay the tax for each year by quarterly instalments during such year on the following dates, 31st March, 30th June, 30th September and 31st December.

DENTISTS UNDER SALARY CONTRACT

4. The Income Tax Act provides for the deduction of certain expenses from salary income.

The allowable expenses include travelling expenses, annual professional membership dues, office rent, salary to an assistant or substitute and supplies consumed directly in the performance of the duties of employment.

Certain conditions are attached to the allowance of the expenses and without trying to recite the exact provisions of the law the main points are:

- (a) That the expenses must have been incurred in the performance of the duties of the office or employment.
- (b) That the employee is required (under the contract of employment to pay the expenses.
- (c) To claim travelling expenses the employee must be ordinarily required to carry on the duties of his employment away from his employer's place of business. Travelling between the dentist's home and his office is not included.

INCOME FROM A PARTNERSHIP

5. Additional expenses incurred by a partner, but not charged to the partnership may be claimed as a deduction from the partner's share of income. However, the partner must be in a position to substantiate these expenses, to show why they were not charged to the partnership and that they were necessarily laid out to earn partnership income.

First "NSDA News" Appears

A welcome addition to the dental news field is the "NSDA News", newsletter of the Nova Scotia Dental Association. The first 4-page mimeographed issue reports that the News will be published "at fairly regular intervals". Editor is Dr. John E. Merritt and chairman of the editorial board is Dr. George M. Dewis.

NADL Opposes Denturists

The National Association of Dental Laboratories in United States, at its recent convention in Miami adopted unanimously a resolution opposing the efforts of untrained and unqualified persons to gain the right to serve the public directly in the field of dental practice as being detrimental to the public interest. The resolution is identical to one adopted by the American Dental Association House of Delegates in September.

Emergency Health Services National Conference

This conference was held at the Civil Defence College, at Arnprior, November 16-18. In attendance were representatives of the Federal and Provincial governments together with the Secretaries of the more important health associations and agencies. The purpose of the conference was to set forth to health leaders, the new government policy on national survival and to bring pertinent information up to date. The Secretary of the Canadian Dental Association attended.

Last March, the Prime Minister made a statement in the House of Commons announcing plans to re-organize and re-assign responsibilities in the fields of civil defence and emergency planning. Subsequently, an Order-in-Council was issued in May 1959, in which the major responsibility for medical, nursing, hospital and public health services was assigned to the provinces.

As outlined in the Order-in-Council, the Department of National Health and Welfare retains the task of giving advice and assistance to provinces, municipalities and others in the development of emergency health services. The Department is also required to participate in emergency planning.

The role of the Department of National Defence, in survival operations in military controlled areas, included medical responsibilities which are at present under study.

Emergency planners and members of the health professions will be interested in the Health Services action which has taken place since these responsibilities were defined.

Until the present, Civil Defence Health Service has been responsible mainly for plans for care of casualties, the assembling of emergency health supplies and hospital

disaster plans in the early period after nuclear weapon attack. Now, however, their responsibilities have been extended over a longer time, that is, through the rehabilitation phase. Their work must now include planning for continuation of the functions of federal and provincial governmental health agencies; long-term health arrangements for the surviving population; similar arrangements for continued hospital care as well as planning assistance for "natural disaster." The name of Civil Defence Health Service is changed to "Emergency Health Services."

Following the second Federal-Provincial Ministers' Conference, the Provincial Civil Defence Co-ordinators were informed of these several changes. Members of the Dominion Council of Health, which met in Ottawa during the week of October 12th, 1959, were also advised in respect to the extended terms of reference and the nomenclature of the newly established division within the Health Services Directorate.

It has been agreed that the Federal Government will give financial aid to approved provincial civil defence projects on a 75-25% basis. This might well include the development of health organizations and other health projects within a province. The provision of technical assistance to provinces will be continued.

Combined operation was the theme of the meeting and the only hope of doing anything sensible for an emergency. Waiting for an emergency to happen is hopeless and specific planning is essential.

A most important change which occurs under the new government policy lies in the position allotted to the armed forces. Emphasis was laid on the point that the army has not taken over civil defence and that civil defence remains under the control of the Department of Health and Welfare. However, specific duties are allotted to the armed forces and these duties make the army responsible for warnings, monitoring fall-out areas, assessment of damages and casualties, re-entry operations, and other immediate emergency duties. These allotted responsibilities mean alterations in training for all army personnel. These alterations are now being made.

Following the immediate attack civilian units of health personnel will take over responsibilities together with welfare services. Most of the planning has now been completed and members of the dental profession will become cognizant of the duties involved as the plans become activated on the provincial and municipal levels.

Supporting Membership — International Dental Federation

The work of the International Dental

Federation depends greatly upon the number of supporting members. Some 60 national bodies, of which the Canadian Dental Association is one, pay an annual grant which sustains the F.D.I. headquarters and part of the actual work but the individual members really supply the means to make the organization work.

The world grows smaller and smaller bringing us all closer together. What happens in one country today affects us tomorrow.

The F.D.I. supplies the connecting link. In addition the F.D.I. represents us at the World Health Organization.

Supporting members receive the F.D.I. Journal and Newsletter reporting on all phases of international affairs in dentistry. Some countries have as high as 75% of their members as supporting members of the international organization. For 1959, Canada had only 36 members. All members of the Canadian Dental Association are eligible.

BOOK REVIEWS

Practical Oral Surgery. Prepared by: H. B. Clark, Jr.

Published by: The Macmillan Co. of Canada Ltd.,

Pages: 469 Price: \$9.50

The author has been successful in his attempt to offer a concise text in Oral Surgery which should be most useful to the busy general practitioner.

This text consists of sixteen well-written and well-illustrated chapters. The chapter on "Instruments and Their Use" is excellently presented and encompasses all instruments from the dental mirror to the inclined plane elevator. The inclusion of a chapter on "Drugs and Pharmaceutical Preparations" is a welcome addition to a text on Oral Surgery and affords the practitioner a complete and readily available reference to those drugs commonly employed in Oral Surgery. This chapter is followed by one on "Hospital Practice" which adequately outlines the duties and responsibilities of the dentist who is presently or is contemplating practising in such an environment.

This book is an excellent source of worthwhile information for the general practitioner, and is, as well, a good reference text for the dental student.

—A. E. Hoffman, D.D.S.

Orthodontics in Mid-Century. Prepared by:

R. E. Moyers, D.D.S., Ph.D. and Philip Jay, D.D.S., M.S., Sc.D.(Hon.).

Published by: The C. V. Mosby Company.

Pages: 344 Price: \$8.75

This book deals with the activities and proceedings of an Orthodontic work shop which took place at Ann Arbor, Michigan, June 16-21, 1958. The purpose of the conference was to study the progress and problems of Orthodontics and its future course. The conference was divided into seven groups. Each group, after an introductory lecture by one of its leaders and after long discussions, brought in final reports.

I Education of the Undergraduate in Orthodontics

Topics such as types of lectures, staff, laboratory and undergraduate programs were discussed in great detail and recommendations were made.

II Educating the Specialist in Orthodontics

A recommendation of a pattern for a university Orthodontic department organization, staff requisites, course content and clinical training was made. The group's decision was that preceptorship training is not an acceptable substitute for graduate training as specialists.

III The General Practitioner and Orthodontics

Dr. P. G. Anderson of Toronto delivered the main lecture in which he raised many questions dealing with the above topic. From this discussion emerged suggestions which will be of great value to both the dentist and orthodontist.

IV Research and Orthodontics

Anders Lundstrom reviewed past research and made suggestions for future areas of research.

V Meeting Demands for Orthodontic Services

The Burlington, Ontario study was reported in great detail. Some of the topics covered were epidemiology of malocclusion, distri-

bution of Orthodontic services, purposes of Public Health Orthodontic programs.

VI Relationship of Orthodontics to Other Health Services

Relationship to : (1) the Pedodontist, (2) the Periodontist, (3) the Oral Surgeon, (4) the Pediatrician, (5) members of the Cleft Palate team, (6) members of the hospital staff.

VII Practice Administration

Suggestions for setting up and administering a practice are carefully detailed.

Anyone interested in the above topics will find a great deal of information in this book. It is a valuable addition to the dental reference library.

A. L. Posen.

THE CORPS

Captain Craig Promoted

Army Headquarters has announced the promotion of Captain J. L. Craig to the rank of Major effective October 2, 1959.

Major Craig was born in Bowmanville, Ont. He holds a B.Sc. and D.D.S. from the University of Toronto receiving the latter in 1946. He enrolled in the R.C.D.C. in 1948 and served as a dental officer in No. 13 Dental Company in Ontario and No. 11 Dental Company Western Command until his present appointment as an instructor at the R.C.D.C. School in June 1956. In 1958 he took graduate training in Periodontics and teaches this specialty at the R.C.D.C. School.

Major J. G. Andrews on Course

Major J. G. Andrews, R.C.A.F. Station, Trenton, Ont. attended a two-week course in

Complete Dentures at the University of Michigan, Ann Arbor, Michigan held from January 4-15.

Captain J. A. English U. S. Navy Visits R.C.D.C.

Captain James A. English, U.S. Navy Dental Corps visited Canada to attend the Eleventh Symposium of the Defence Research Board in Ottawa held December 9 to 11. While in Canada he visited the Directorate of Dental Services and R.C.D.C. facilities in Ottawa on December 8 and the R.C.D.C. School, Camp Borden on December 15.

Posting

Captain R. D. Bunt has been posted from Montreal to No. 14 Dental Company R.C.D.C. in Winnipeg.



Pictured above is the new Canadian Forces Medical Service Hospital, Kingston, Ontario which was officially opened on October 9, 1959. Included in the west wing (right) is an ultra-modern four-chair Royal Canadian Dental Corps clinic which provides dental service for the hospital, Camp Barriemfield and Vimy Barracks. The dental officer in charge is Major J. V. P. Chatwin.

THE PROVINCES

ALBERTA

Calgary and District Dental Society

Following an afternoon meeting with the Alberta Chapter of Dentistry for Children, Dr. M. J. Cohen of Tufts University in Boston, addressed the regular monthly meeting of the Calgary and District Dental Society on October 28th. The topic of Dr. Cohen's talk was "Periodontal Disturbances in Children." Dr. Cohen prefaced his talk with remarks about fluoridation of communal water supplies, which he called the greatest public health measure of this century.

Home Talent Night

Monday, December 7th, was Home Talent Night for the Calgary and District Dental Society. Fourteen members of the Society

presented table clinics on various aspects of dentistry. Clinicians were Drs. M. J. Lipkind, G. L. Locke, D. H. Pedlar, E. W. P. Luxford, A. D. Sparrow, D. N. Allen, R. R. McIntyre, R. M. Perry, G. W. Street, G. C. Swann, J. A. Duncan, G. K. Minty, A. G. Kluzak, and Maj. J. Turner.

G.W.S.

Calgary and District Dental Society

The first meeting of the Calgary and District Dental Society for 1960, was held at the Palliser Hotel on Monday, January 4th, 1960. Dr. Arne G. Lauritzen of Seattle, Washington, addressed the Society at both afternoon and evening sessions. His topic was "Centric Occlusion—Centric Relation, and other Related Subjects in Natural and Artificial Dentitions". Dr. Lauritzen is a well known proponent of the Hinge-Axis Technique, and outlined its philosophy and use in the harmonizing of the occlusion of the natural

dentition, and the construction of artificial dentures. Dr. Lauritzen was introduced by Dr. Cal Waddell and thanked by Dr. Gerald Locke.

G.W.S.

North Eastern Alberta and District Dental Society

The North Eastern Alberta and District Dental Society held its second official meeting since its formation, at the Prince Charles Hotel, in November 1959.

Eleven dentists were present at the meeting presided over by Dr. L. G. Mandin of St. Paul.

The scientific part of the program consisted of a very interesting panel discussion on the use of fluorides. Dr. Ron Payment of Vermilion acted as moderator.

The Society hopes to see the fluoridation of communal water supplies become a reality throughout north-eastern Alberta in the few years that will follow. The Society feels that it is a very important and vital health measure for the people of that area.

Special tribute was paid at the dinner to two elderly and distinguished members of the profession in the persons of Dr. W. Scott of Edmonton and Oliver, and Dr. J. Clarke of Vermilion. Both dentists had practised in Vermilion for well over forty years, taking part in the pioneering of the district. Both doctors were presented with honorary life membership to the Dental Society, the honours being presented to them by Dr. Hardin of Vegreville and Dr. Payment.

All the dentists present were accompanied by their wives who were entertained by Mrs. Holt Sr., Mrs. Pat Holt and Mrs. Skoretz of Lloydminster.

BRITISH COLUMBIA

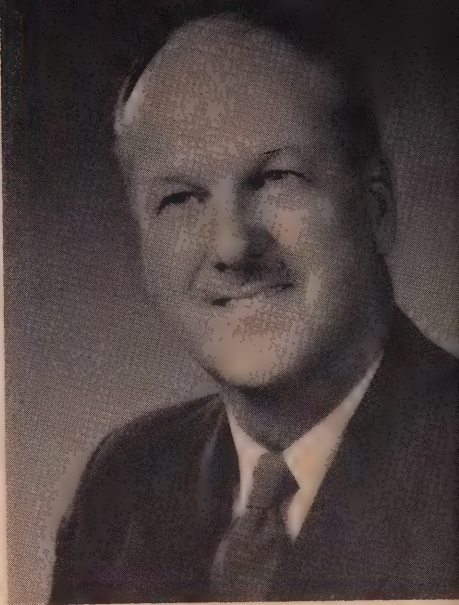
Vancouver and District Dental Society

An anaesthesiologist of international repute, Dr. Max Sadove addressed the regular meeting in December. A graduate in pharmacy and in medicine, Dr. Sadove is professor of surgery at the University of Illinois.

His afternoon lecture was devoted to the subject of local anaesthetics, their reactions, emergency treatments and the principles of resuscitation in the dental office.

At the evening session Dr. Sadove spoke on changing horizons in anaesthesia. He discussed the trend toward socialization in the professional field due to population growth and the interdependence of man. He felt that all members of the dental profession should put forth a new effort to study the many problems of the present day.

D.H.M.



Dr. John Abra, President of the Manitoba Dental Association.

MANITOBA

Dr. John Abra, President, Manitoba Dental Association.

Dr. Abra graduated from the University of Minnesota Dental School in 1931, and took post graduate training in Orthodontics there in 1932. He has practised in Winnipeg since then with his practice limited to Orthodontics since 1936.

Dr. Abra was a member of the Executive of the Winnipeg Dental Society in 1938, then joined the R.C.D.C. in 1939. He was the Commanding Officer of No. 6 Company and was attached to the 4th Canadian Armoured Division in North West Europe with the rank of Lieutenant-Colonel.

Dr. Abra has served in an executive capacity on many organizations both dental and non-dental. He was Chairman of the Orthodontic Section of the C.D.A. in 1955 and Chairman of the Board of Publications (Central Section) of the American Association of Orthodontists, 1959. He was elected to the Board of the Manitoba Dental Association in 1956 and became President in 1959.

J.P.B.

NEW BRUNSWICK

New Brunswick Dental Society Annual Meeting

The Sixty-fourth annual meeting of the New Brunswick Dental Society was held on September 26th in Edmunston, northern New Brunswick. Dr. D. C. Steeves of Moncton was chairman for the business meeting. The hosts were members of the Upper Saint John Valley Dental Society, with Dr. B. A. Cyr of Edmunston as president. At the luncheon the guest speaker was Mr. W. E. Jackson of Toronto, administrator Dental Service Plans Incorporated. Mr. Jackson emphasized that this was not a collection agency for poor risks, but a scheme whereby patients who could not make a large outlay of money at one time, could spread out the payments with only a very small charge for the service.

It was decided to hold the Maritime Dental Convention in New Brunswick in 1960 and so advise the other provinces with suggestions on alternate dates. Saint John is the probable location of the meeting.

The usual reports were given and necessary action taken. Due to the relatively large percentage of dentists present, good discussion of the various aspects of dental association business was possible. The good progress reported in the restraint of illegal practice was chiefly due to the injunction clause in the dental act. An increase in the fees paid to the Canadian Dental Association was approved.

It was reported that the Workmen's Compensation Board had accepted the present list of fees of the N.B.D. Society.

The nominating committee brought in a proposed slate of officers for the ensuing year. Those elected are as follows: Honorary Life President—Dr. A. J. Coughlan; president—Dr. P. M. Clarke; vice-president—Dr. A. B. Cyr; secretary-treasurer-registrar—Dr. E. D. Halford. Area Council Members: Dr. J. G. Blackmer, Dr. C. A. Allaby, Dr. Don Vautour, Dr. O. LeBlanc and Dr. K. A. Hetherington. Additional Council Members: Dr. D. C. Steeves, Dr. A. D. Bona, Dr. R. B. DeWare and Dr. D. Britt. C.D.A. Representative—Dr. W. B. O'Brien, and alternate, Dr. G. G. Orser. National Dental Examining Board Representative—Dr. H. F. Bonnell, alternate, Dr. A. Steurman.

The new president Dr. Percy Clarke of Saint Stephen accepted a motion of thanks given to the outgoing executive including

the president Dr. D. C. Steeves of Moncton. A motion of thanks to the hosts under the able leadership of Dr. Cyr was also unanimously passed. A social evening including a dinner and dance was enjoyed by all present.

New Brunswick News

At a meeting of the New Brunswick Dental Society Council held at Saint John on November 7, Reginald Forbes Samson was elected to the office of secretary-treasurer and registrar replacing Dr. Earnest Halford who has moved to Newfoundland. Dr. Samson was born in Moncton, N.B. and received his early education at Fredericton. He served with the Royal Canadian Artillery in France in World War II. On retirement from the army he studied dentistry at Dalhousie University graduating in 1951. He has practised in Saint John since graduation at 158 Germain Street.

On Monday, November 30th, at the Admiral Beatty Hotel in Saint John a special dinner was held by the New Brunswick Dental Society. The guest of honour was the president of the Canadian Dental Association, Dr. W. G. McIntosh. Dr. McIntosh spoke of the progress and trends of the association which are taking place in Canada. He was introduced by Dr. Blake O'Brien of Fredericton who is the New Brunswick representative on the Board of Governors of the Canadian Dental Association. Dr. McIntosh was followed by the secretary Dr. Donald Gullett who spoke on the analysis of last April's questionnaire. This was illustrated with slides and showed the comparisons of this analysis with that of the 1954 results. Some of the trends and changes proved very interesting. As the dinner was held on Saint Andrew's night a pipe band gave a specially requested concert which appealed especially to the Scots present.

J.F.E.

NEWFOUNDLAND

Newfoundland Dental Society

The Newfoundland Dental Society held a very successful one day Seminar on November 21st, 1959 at the Hospital for Mental and Nervous Diseases in St. John's.

Special guests came from the dental corps of the United States Naval Station, Argentina, the Air Force Base at St. John's and the Royal Canadian Dental Corps in St. John's. Civilian practitioners travelled from Corner Brook, Sander, Grand Bank and other nearby places.

The clinical program was presented by local men—three dentists and three medical practitioners whose fields are closely related to dentistry. Dr. James M. Darcy spoke on the removal of impacted third molars, Dr. Bruce Bowden on denture aesthetics, and Dr. David Peters on practical orthodontics.

A neurosurgeon, Dr. D. Lawrence Sutherland presented the subject of facial pain; Dr. Nigel Rusted, a surgeon, spoke on his work with cleft palates, and Dr. Frazer Walsh, a psychiatrist, outlined behaviour problems in children.

The luncheon speaker was Dr. Leonard Miller, Deputy Minister of Health for Newfoundland. He traced the development of hospital insurance and the Cottage Hospital Program in Newfoundland.

The day was concluded at the Old Colony Club with a dinner and dance.

The Annual Meeting of the Newfoundland Dental Society will be held in St. John's in May 1960.

D.K.P.

QUEBEC

Montreal Alumni Chapter Alpha Omega Fraternity

On Saturday evening, December 19, 1959, a general meeting was held in conjunction with the ladies' auxiliary at the home of Dr. and Mrs. H. Skurnik. The speaker of the evening was Dr. Hy. Pearson who gave a travelogue of his recent tour through Europe and Israel. Dr. Pearson was aided by numerous beautiful Kodachrome transparencies through which he was able to capture the picturesque scenery and the moods of the people. Countries visited included Switzerland, Italy, France, and Israel.

Dr. Pearson while in Israel was invited to deliver an address at the scientific session of the first dental graduation exercises of the Hebrew University, Jerusalem, August 7, 1959.

The speaker was thanked by Dr. Morton Greenblatt, program chairman.

M.G.

Mount Royal Dental Society

The second meeting of the Mount Royal Dental Society was held at the Mount Royal Hotel, Tuesday night, December the 8th, 1959. There was a short business meeting during which Doctors H. Burnstein, H. Ptack, D.

Grossman, M. Shavell and M. Tennenbaum were installed as members.

The speaker for the evening, Dr. R. Lamb was introduced by Dr. P. Gitnick and his subject was "Modified Inlay Preparations for Fixed Prosthesis."

In discussing current preparation concepts, Dr. Lamb points out that full crowns restrict gingival embrasures, do not restore natural labial or buccal contour and often the tooth reduction necessary for veneers endangers pulp health. Three quarter crowns are often overprepared in many teeth due to the mesial and distal slices, the same happening with MOD preparations, in which, moreover, the lingual or buccal cusps are prone to fracturing due to the deep occlusal isthmus.

As to the concept of abutments being of equal retention, he feels that if the preparation of one retaining abutment is properly retentive, an abutment casting for a fixed bridge cannot be loosened by the other abutment being more retentive.

To modify the preparation, he suggests the reduction of the occlusal surface to about 1 mm. following the slope of the cusps; reduction of the proximal surfaces by a tapered "torpedo" shaped diamond giving a saucer shaped surface which does not require the bucco-lingual extension of a slice; increased retention is achieved by the addition of dove-tail locking grooves on proximal surfaces and pin-holes on occlusal surfaces. He records his tooth preparation with hydro-colloid or elastic impression materials and uses a temporary plastic stopping for between appointment protection of prepared teeth.

Dr. Lamb, in closing, made a plea for less indiscriminate tooth reduction as he feels Dentistry cannot really reproduce the labial surface of a tooth as perfectly as Nature has. He was thanked by Dr. Godine and the meeting was adjourned for refreshments.

D.S.

Montreal Dental Club

The 3rd Annual Black Tie Dinner of the Montreal Dental Club was held on Thursday, December 10, 1959, at the Windsor Hotel. This evening is designed for relaxation and good fellowship among the Club members. At the same time it provides an opportunity to honor members of the Montreal Dental Club who have completed thirty-five years in the practice of Dentistry. Those members so honored this year were Dr. Henry T. Brown, Dr. Winston C. Bushell, Dr. C. R. E. Cassidy, Dr. Alexander W. Hyndman, Dr. Campbell Morris and Dr. A. Douglas Richardson. Dr. Morris, on behalf of his classmates, addressed the Club members and recounted some of the achievements of these men over the years.

Dr. Bushell and Dr. Richardson recounted humorous incidents that took the men back to their student days. Tribute was paid to the memory of Dr. Maurice L. Donigan, also a member of the class of 1924, who had passed on during the year.

Guest for the evening was Mr. J. Stuart Richardson, one of Canada's most polished speakers. His talk was entitled "The Inns of England," a subject very close to his heart. Mr. Richardson showed colored slides of some of the more famous Inns of England, dating as far back as the 14th Century. At the same time he related some of the histories and legends associated with these establishments.

In all it was a very merry evening and Club members wish to thank Dr. Owen Frederick for the preparation of this event.

J.D.F.

November General Assembly of La Societe Dentaire de Montreal

The members of La Societe Dentaire de Montreal, of the Montreal Royal Dental Society as well as those from the Montreal Dental Club, gathered at the Queen Elizabeth Hotel for a lecture day.

Many dentists attended the three-hour lecture of Dr. Morrison from New York who gave a history of all the various cutting instruments including drills, burs and the hand-pieces used today.

A cocktail party followed by a banquet honored by the presence of Dr. Marc Thibault were attended by the guests. Among the special guests were Drs. de Montigny,



l. to r.—Dr. Daniel Steinberg, president of the Mount Royal Dental Society; Dr. Jean-Paul Lachapelle, president of the College of Dental Surgeons of Quebec; Dr. Marc Thibault, president, Société Dentaire de Montréal; Dr. Arthur H. Morrison, New York, lecturer, and Dr. Donald Gordon, president, Montreal Dental Club.

Charette, Gordon, Pearson, Thibault, Colle, Geoffrion, McCutcheon, and Morrison.

The second lecture given by Dr. Morrison concerning the advantages and disadvantages of the different drilling instruments, was most helpful and will be well remembered.

The first conjoined assembly of the three dental societies of Montreal was a great success and equal success is wished for the next reunion to be given by Dr. Phillips on February 29th, 1960.

C.V.

YOUR NATIONAL CONVENTION — OTTAWA, SEPT. 25-28

PRESENTS A NOVELTY IN THE SCIENTIFIC PROGRAMME

A DISPLAY AND DEMONSTRATION SESSION

GENERAL NEWS

Dental Tissues and Aging Related

Using highly precise research tools, dental scientists at the Harvard School of Dental Medicine have been able to observe the nature of dental tissue changes which give a fairly accurate estimate of an individual's age by examination of single teeth.

Dr. John Nalbandian, Research Fellow in Dental Medicine, with Dr. Reidar F. Sognnaes, Professor of Oral Pathology, reported on their research before the Section on Dentistry at the 126th annual meeting of the American Association for the Advancement of Science. Their paper was presented as a part of a symposium on "Oral Aspects of Aging."

The Harvard study was based on knowledge that tooth structures change in various ways with advancing age. Some of these changes are visible to the eye, as the wear that occurs on the chewing surfaces of the teeth. The measurements of microscopic changes taking place within the root portion of the teeth, Dr. Nalbandian pointed out, appear to be the most genuine biological age change.

The Harvard School of Dental Medicine study concentrated on the changes in the transparency in the solid portion (dentin) of the root of the tooth. These changes were described by Dr. Nalbandian as a "sclerosis" — the deposition of minerals within the minute channels or tubules that are found throughout the dentin. The dentin of the tooth roots, he noted, "is similar in all the teeth in a person's mouth and is less affected by disease conditions that may arise in the mouth."

Extremely thin sections of the dentin, cut with a diamond knife without removing the inorganic salts, when viewed under the high powers of an electron microscope or by means of high resolution x-ray microscopy, showed the degree of mineral deposit in the dentin tubules.

Studies of these sections, Dr. Nalbandian reported, when combined with other observations makes it possible to estimate, within an accuracy range of 7.9 years, the ages in about two-thirds of the cases when a single tooth is examined from each individual.

Use of the electron microscope and x-ray microscopy, Dr. Nalbandian said, "for the first time allowed direct observation of the

obliteration of dentinal tubules in the sclerotic root dentin." He explained that past difficulties were "largely due to the fact that the hard structure of the teeth had to be softened by removing the minerals with acid before one could cut thin sections for study under the electron microscope." The acid also removed the mineral deposits in the tubules.

The dentin "sclerosis" studied by Drs. Nalbandian and Sognnaes appears to be the more reliable of several grossly visible age changes first proposed in 1950 by a Swedish dentist, Dr. Gosta Gustafson.

- 1) The degree of wear on the teeth.
- 2) The amount of regression of the gum tissues.
- 3) The extent to which the pulp ("nerve" canal) is filled in by secondary deposition of dentin.
- 4) The amount of root destruction.
- 5) The amount of bonelike tissue deposited on the surface of the roots.

March Issue of the A.D.A. Journal to be Devoted to Dental Graduate

The March issue of the Journal of the American Dental Association will be devoted exclusively to articles of interest to forthcoming dental school graduates. This will mark the first time an entire issue of the Journal has been directed to dealing with problems graduates will face as they enter practice, according to Dr. Lon W. Morrey, editor. Among subjects to be treated by almost 30 authors are choice of practice location, professional relations, public relations, business aspects of dentistry, auxiliary personnel, dental trade and laboratory relations, dental society services, and opportunities in the profession.

Dental Laboratory Relations — U.S.A.

The National Association of Dental Laboratories in the United States, at its recent convention in Miami adopted unanimously a resolution opposing the efforts of untrained and unqualified persons to gain the right to serve the public directly in the field of dental practice as being detrimental to the public interest. The resolution is identical to one adopted by the A.D.A. House of Delegates in September.

American Medical Association Advertising Principles

The principles state that the A.M.A. "may decide that certain products or services are not eligible . . . if advertisements for these products or services in other media consistently depart from the standards set forth in the section in suitability of advertising copy."

To be suitable for publication, an advertisement:

- Should clearly identify advertiser and product or service offered.
- Should not be deceptive or misleading.
- Should not make unfair comparisons or disparage a competitor's product or services.
- Should not use sweeping superlatives or extravagantly worded copy. Any claims for superiority must be supported by evidence acceptable to the A.M.A.
- Must not distort the meaning intended by the author in the use of quotations or excerpts from published papers.
- Must conform to the principles of medical ethics and must not be indecent or offensive in either text or art work.

Sales Policy: As a matter of policy, the A.M.A. sells advertising in its publications when (1) the advertiser believes that the purchase of such space represents a sound expenditure (2) inclusion of advertising does not interfere with or seriously detract from the purpose of the publication and (3) when advertising copy meets the standards established for the publication.

The A.M.A. evaluates advertising copy on the basis of available data concerning the product or service. The Association does, however, seek the opinions of consultants selected for their competency in the field involved, and recognizes statements formulated by A.M.A. Councils and Committees in determining the eligibility of products and the suitability of claims. Evaluations are not based upon tests conducted by the Association.

Lost Liver

Carter Products, Inc., lost a 16-year court battle when the Supreme Court denied it the right to call its medicine "Carter's Little Liver Pills". The court refused to review a Federal Trade Commission order banning the use of the word "liver" and the advertising claim that the product increases the flow of bile from the liver.

Arthritis

Dr. Robert C. Mellors, New York, and his associates at the Hospital for Special Surgery, report they have pinpointed for the first time

the cells which produce the rheumatoid factor found in the blood of arthritics. Their discovery, reported at the Sixth Interim Scientific Session of the American Rheumatism Association, furnished investigators with a new lead in the study of rheumatoid arthritis. They traced the site of the formation of rheumatoid factor to two kinds of cells found in the body tissues of patients suffering rheumatoid arthritis: Plasma cells, present in the synovial membrane, and the large pale cells which are found in germinal centres of lymph nodes.

Free Choice of Drinks Urged by Alcoholics

Patients undergoing treatment at the Alcoholism Research Foundation's clinic in Toronto have come up with a New Year's resolution they recommend to all well-meaning hosts and hostesses who offer drinks containing alcohol to their guests. If the drinks contain alcohol, alcoholics urge offering at the same time and in the same way some beverages containing no alcohol.

This lets the alcoholic off the hook. He, or she, can be happy and sociable with no embarrassment and no risk to anyone.

"After all, you wouldn't force sugar on a diabetic," commented one clinic patient. "And to an alcoholic trying to stay on the wagon one drink can be just as dangerous."

There are at least 79,000 alcoholics in Ontario — 200,000 in Canada — according to the Foundation statisticians. There may be one or two alcoholics among anyone's friends, neighbors, or working companions. A means should therefore be provided by every thoughtful host or hostess whereby they, or anyone else who so chooses, can avoid alcohol for his own reasons without drawing any special attention to the fact.

MDs Pressured

Communist governments of Eastern Europe are clamping down hard on private medical practice, the Associated Press reports from Vienna. Pressure is brought on doctors to work only for the state. A Prague MD was sentenced to prison for continuing to treat private patients despite explicit ban.

Contributions

Lawyers make larger average gifts per giver to Community Fund and Red Cross campaigns than either doctors or dentists, reports United Community Funds and Councils. Average lawyer gift across U. S. in 1959 was \$78.53. MDs averaged \$73.80, dentists \$36.36.

Syphilis — U.S.A.

Since the introduction of antibiotics, the overall death rate from syphilis has dropped from 12 persons per 100,000 population in 1943 to 2.2 in 1958, reports Health Information Foundation. But an estimated 60,000 new cases of syphilis and 1,000,000 of gonorrhea still are acquired each year—and many of them are not reported.

Frostbite

Dr. John T. Phelan, University of Wisconsin Medical School, urges a wide educational program among police and first aid workers in the use of the quick-thaw method for treating frostbite. Writing in the November Journal of the International College of Surgeons, he states that rapid thawing in experimental studies has shown considerable benefit. A quick-thaw at about 110 degrees F is the best treatment, he said.

Atomic

Scientists from Guy's Hospital, London, disclosed the story of how 15 men endured flash burns from simulated atomic explosions to determine the nature, course, and healing time of uninfected flash burns. Writing in the December issue of Surgery, Gynecology and Obstetrics, they indicated that such burns might be more widespread in an atomic attack than earlier studies on animals had indicated. Their findings emphasized the need for facilities to clean, diagnose, and treat flash burns that are easily infected and crippling if not treated properly.

Headache

The personality of the patient and the doctor-patient relationship are more important than drugs in the relief or prevention of headaches. This stand was taken by Dr. Arnold P. Friends, Montefiore Hospital Headache Clinic, before a recent conference at the New York Academy of Sciences. He based his conclusion on 15 years of research on chemicals used to relieve or prevent headaches. At the same time, he said he is convinced that various chemicals are important adjuncts both in the relief and warding off of headaches.

Microscope

A new electron microscope, so powerful that it has captured the image of structures as minute as molecules of hemoglobin, was described before the New York Society of Electron Microscopists by Dr. Alvar P. Wilska, University of Helsinki, Finland.

Marital Bliss

Marriages in which the husband is mentally superior to, and considerably older than, the wife have the best chance for happiness. Drs. E. W. Busse and Carl Eisdorfer, Duke University psychiatrists, interviewed couples ranging in age from 60 to 93. Age difference in happy marriages is 5.9 years.

Amoeba on Film

Growth and activity of the amoeba will be photographed for the first time by Chicago Medical School. Slow motion and time lapse photography will record the amoeba's mechanisms, metabolism, and ingestion of red cells. Object is to determine how these functions take place.

Certification

A New York law requiring certification of individuals representing themselves as psychologists was upheld by a New York Supreme Court. Court said the law does not prohibit the practice of psychology, but does bar individuals from representing themselves as psychologists unless their qualifications are approved in accordance with the law's provisions.

Detergents

A serious public health problem has been created because water purification methods do not remove detergents from drinking water, a chemist warned. Jesse M. Cohen of the Robert A. Taft Research Center, Cincinnati, said nearly four billion pounds of detergent were used in 1958, with 85% of that being used in households. He said detergents make a complete circle from sink, down the drain, into sewage for treatment, and back to the sink via the water tap.

One should explore the explorable and calmly worship the inexplorable.

Goethe.

IN MEMORIAM

William Stewart McLaren—Dr. William Stewart McLaren of Ormstown, Quebec, died in December 1959.

Dr. McLaren was born in Ormstown in 1876. He graduated from Bishops College in 1897.

Leslie Alvin Koepfel—Dr. Leslie Alvin Koepfel of Waterloo, Ontario, died on November 20, 1959, following a lengthy illness. He was 69.

Dr. Koepfel was born in Galt, Ontario in 1890. He was graduated from the R.C.D.S. of Ontario in 1911.

Dr. Koepfel is survived by his widow, Vera; two daughters, Jane and Alice, and five grandchildren.

William Alexander Rutledge—Dr. William A. Rutledge who practised in Vancouver, B.C. for 41 years died in hospital on December 10 at the age of 67.

He was born in Winnipeg and after graduating from the North Pacific Dental College, Portland, Oregon in 1918, he began practice in Vancouver.

Dr. Rutledge was an active member of the prosthetic study clubs and the honorary and active pallbearers at his funeral included nine of his Vancouver colleagues. He was a member of the Masonic Order of the Royal Arch, Knights Templar and Gizeh Temple.

Surviving are his widow, Violet; one daughter and two grandchildren; also one brother and one sister.

Fred W. L. Hamilton—Dr. Fred W. L. Hamilton of Winnipeg, died on December 13, 1959. He was 80.

Dr. Hamilton was born in Waldemar, Ontario in 1879 and went to Winnipeg in 1904 following his graduation from the R.C.D.S. of Ontario. He practised in Winnipeg until his retirement in 1952.

Dr. Hamilton took a keen interest in birds and outdoor life and was an amateur naturalist for many years. He was a life-long member of the Canadian Dental Association and belonged to the George Matheson Dental Club of Winnipeg.

He is survived by his widow Sarah Alice and one son, Dr. Ian Hamilton of Seattle, Washington.

Richard Lorne Treleaven—Dr. Richard Lorne Treleaven of Woodstock, Ont., died on December 7th, 1959.

Dr. Treleaven was born in Dungannon, Ontario. He graduated from the R.C.D.S. of Ontario in 1924 and practised in Lucknow and Woodstock.

Dr. Treleaven was a former member and past chairman of Woodstock Board of Education, member of Woodstock Rotary Club and the Lucknow Masonic Lodge and Oxford Chapter, Royal Arch Masons. President of Oxford Riding and Driving Club and a member of the London Hunt Kennels. He took a keen interest in community affairs and also in horses, his entries at horse shows and jumping won many prizes during the years. He was also an ardent hunter and fisherman.

Surviving are one daughter, Patricia, one son, Richard L., one granddaughter; one sister, Rhetta, and one brother Dr. C. L. Treleaven.

Charles Bertram Mess—Dr. Charles Bertram Mess of Victoria, B.C., died on November 27th after a short illness. He was 60.

Born in Victoria in 1899, he served as a gunner with the first field artillery in the First World War, and after the war attended North Pacific College of Dentistry in Portland, Oregon, where he received his degree. He served as a major in the Dental Corps in the Second World War, and in 1945 joined the veterans' affairs department.

Surviving are his widow, Lilla; two sisters, Eva and Mrs. A. Glinz, and one brother, Percy.

Archibald Wyldie Boyd—Dr. Archibald Wyldie Boyd of Kirkland Lake died on December 25, 1959. He was 64.

Dr. Boyd was born in Copper Cliff, Ontario in 1895 and received his early education in Creemore, Ontario. He graduated from the R.C.D.S. of Ontario in 1918. He practised in Copper Cliff from 1918 to 1919 and in Kirkland Lake from 1919 to 1929 when he moved to Toronto and practised until 1934. In 1934 Dr. Boyd returned to Kirkland Lake and practised there until his death.

Dr. Boyd was a past president of the Northern Ontario Dental Association.

He is survived by his widow Jean, a son, Dr. Wm. T. Boyd, (M.D.); two sisters, Pearl and Ethel, and two grandchildren.

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1960	Ottawa, Ontario	Sept. 25th-28th
1961	Saskatoon, Saskatchewan	May 31st-June 3rd
1962	Vancouver, British Columbia	June 3rd-6th
1967	Toronto, Ontario	May (Centennial Celebration of Dentistry in Canada)

FUTURE EVENTS

Date	Function	Location	Officer	Address
Mar. 11-13, 1960	Annual Meeting American Society of Psychosomatic Dentistry & Medicine	Shoreham Hotel, Washington, D.C.	Dr. Jesse Caden, Chairman,	5213 Connecticut Ave., Washington 15, D.C.
Mar. 13-60, 1960	28th Annual Postgraduate Clinic—District of Columbia Dental Soc.	Shoreham Hotel, Washington, D.C.	—	Dist. of Columbia Dental Society, 183 Eye St., N.W., Washington 6, D.C.
May 12, 13, 14, 1960	B.C. Dental Association Convention	Empress Hotel, Victoria, B.C.	Dr. W. Ross Upton,	217 Medical-Dental Bldg., Vancouver 1, B.C.
May 15-18, 1960	Ontario Dental Association Convention	Royal York Hotel, Toronto, Ont.	Mrs. A. Durham,	230 St. George St., Toronto 5, Ont.
June 5-8, 1960	Maritime Dental Convention	Admiral Beatty Hotel, Saint John, N.B.	Dr. A. D. Bona,	82 King St., Saint John, N.B.
Oct. 12-15, 1960	42nd Annual Meeting American Society of Oral Surgeons	Westward Ho Hotel, Phoenix, Arizona	Dr. D. C. Trexler,	840 North Lake Shore Drive, Chicago 11, Illinois.

UNIVERSITY OF ALABAMA SCHOOL OF DENTISTRY

Refresher Courses:

- March 4, 5, 6, 1960—"Complete Denture Prosthesis"
- May 7, 8, 1960—"Pedodontics for the General Practitioner"
- May 11, 12, 13, 1960—"Root Canal Therapy followed by Apicoectomy"
- May 23, 24, 25, 1960—"Anatomy of the Head and Neck"
- May 27, 28, 29, 1960—"Hypnosis Applied to Dentistry"

Further information may be obtained from the Director, Refresher Course Program, University of Alabama School of Dentistry, 1919 7th Avenue South, Birmingham, Alabama.

OTHER INFORMATION CONCERNING DENTAL MEETINGS OUTSIDE CANADA IS AVAILABLE AT C.D.A. HEADQUARTERS.

JOURNAL

Tétrade thérapeutique dans les parodontopathies: détartrage, réactivation hydraulique, contention, antibiothérapie par la rovamycine*

par Paul Couturier, Aix-les-Bains, France, lauréat de l'Académie de Médecine

Cette brève communication portera sur les parodontopathies.

Peut-être ces affections de l'appareil de soutien de la dent n'ont-elles pas, au Canada, pays jeune, sportif et dynamique, la même importance que dans la vieille Europe, où la parodontose règne de façon endémique. Son importance apparaît cependant essentielle, car la première condition pour qu'une maison soit édifiée de façon durable, c'est qu'elle repose sur des fondations solides. Autrement dit, la prévention et la thérapeutique des parodontoses apparaissent indispensables si l'on veut permettre la stabilisation de l'appareil masticatoire.

J'ai employé le terme "Parodontose", alors qu'en Amérique (aux Etats-Unis en particulier) on englobe sous le terme générique de "Periodontology" les affections inflammatoires ou atrophiques du parodonte (c'est-à-dire de l'ensemble de l'infrastructure périodentaire); nous distinguons dans l'ARPA 2 classes de lésions:

- 1 — la *parodontite*: lésion inflammatoire de la gencive, soit marginale, soit superficielle, soit profonde.
- 2 — la *parodontose*: lésion dégénérative, atrophique, cyclique où l'inflammation est souvent cachée, ainsi que l'infection.

Le diagnostic en est fait, d'une part grâce:

- au facteur mécanique (ébranlement en rotation de Béliard)

*Conférence prononcée devant les étudiants de la faculté de chirurgie dentaire de l'Université de Montréal, le 23 septembre 1959.

- d'autre part grâce à la radiographie (ostéolyse horizontale ou verticale.
- less soins seront possibles s'il subsiste un minimum 1/3 d'attache osseuse apicale).
- enfin grâce à l'examen bactériologique: nous y reviendrons tout à l'heure en détail.

Si les lésions de parodontite sont plus ou moins rapidement curables les *séquelles* de la parodontose sont *irréversibles*: d'où la difficulté mais aussi l'intérêt de les traiter.

Cette distinction étant faite d'une façon très schématique, examinons ensemble, si vous le voulez, comment traiter une *parodontose*.

Le traitement comprend 4 temps

- 1 — détartrage
- 2 — réactivation
- 3 — contention
- 4 — l'adjuvant anti-infectieux: soit 1 temps "général" . . . peut-être le plus important.

Nous passerons très rapidement les 1 et 3° temps (détartrage et contention): vous les connaissez aussi bien et certainement mieux que moi.

Nous insisterons davantage, avec votre permission, sur les temps 2 et 4, susceptibles de retenir davantage votre intérêt.

I° — DÉTARTAGE

Le tartre se trouve parmi les facteurs les plus répandus d'irritation locale. L'acte de détartrage peut être le plus difficile à réaliser, car il faut le faire le plus complet possible et si le tartre salivaire sus-gingival est relativement facile à enlever, les calculs sériques sous-cervicaux ou interradiculaires profonds opposent de sérieuses difficultés: c'est pourtant du détartrage-curetage le plus minutieux et le plus approfondi que dépendent les chances de réussite et la possibilité de réinsertion et de réattachement.

Il existe beaucoup d'instruments à détartrer: j'en ai essayé plusieurs pour me rabattre finalement sur 2 sortes d'instruments qui me donnent entière satisfaction:

- 1 — le jeu des grattoirs interchangeables Morse (U.S.A.)

- 2 — et ceux de WARREN-TOFF présentés par le Pr HELD: ces derniers ont une maniabilité plus grande encore.

Je ne m'étends pas sur la technique du détartrage et passe au 2° temps: celui de

II° — RÉACTIVATION

Souvent le tartre n'est qu'un épiphénomène; l'*atonie* ou la congestion gingivale sont prépondérantes: il faut réactiver la circulation locale, procéder à un massage en même temps qu'à un véritable lavage tissulaire, à une ex-osmose pour voir l'inflammation regresser.

La réactivation s'avère indispensable.

D'après BOSSARD (de Paris), la réactivation a pour but de stimuler artificiellement les forces naturelles des tissus, en vue de la défense contre les toxines endogènes.

Plusieurs méthodes ont été employées successivement ou parallèlement dans le domaine de la réactivation générale ou spécifique: autohémothérapie, vaccinothérapie, protéinothérapie, injections d'extraits placentaires, etc.

L'intérêt thérapeutique de la réactivation ne réside pas, comme le signale QUICKELBERGER (à la 18° réunion de l'Arpa Suisse, de Berne), dans la réaction elle-même sur l'organisme, mais dans les processus *consécutifs* à cette réaction.

Oscar WESKI a introduit la notion de réactivation en parodontologie: diverses techniques locales (photothérapie de ALBIS, ozonothérapie de IVANOFF-DECHAUME, oxygénothérapie de DUNLOP) ont fait appel, avec des fortunes diverses, à des radiations ou à des éléments gazeux doués de propriétés cytophiles ou revitalisantes.

WESKI et le Pr HELD considèrent la réactivation comme de première importance et ne voient dans la suppression des troubles locaux qu'un traitement préliminaire.

WEISSENFLUH a parlé le premier de la réactivation *thermale*: il était particulièrement judicieux d'essayer sur les parodontoses, maladies chroniques, dégénéra-

tives et progressives par excellence, la crénothérapie qui, par "son action *spéciale* sur les états *chroniques* s'adresse à la *constitution* du malade plus *encore* qu'à la *maladie*: ceci a été dit par René JAC-CARD et Ulysse VAUTHIER.

Autrement dit, la réactivation hydraulique n'exerce pas une action sur le parodonte, mais provoque une *réaction* suivie elle-même de processus réactionnels du parodonte, processus favorables et indispensables en face des stress (agents d'agression traumatique, infectieux, toxiques) qui ont amené progressivement une diminution de la fonction physiologique et, par là, une involution structurale.

Ces processus se traduisent, comme l'a noté BOISNIERE, (à la suite de ses traitements thalasso-thérapeutiques c'est-à-dire par eau de mer) par la régénération de la structure cellulaire et nucléaire, le rétablissement de la perméabilité normale du réticulum vasculaire, la réactivation de la nutrition des tissus et de leur métabolisme local.

J'ai opté, depuis bientôt 9 ans, après l'idée de JASKARSEK, en faveur de cette réactivation hydraulique: et FRIEZ, au 12^e Congrès de Stomatologie à Paris, 1951, a pu écrire "il paraît possible d'expliquer la coïncidence d'action favorable des eaux sulfureuses sur les phénomènes rhumatismaux et sur les polyalvéolyses, puisque nous avons vu les analogies de structure, au moins partielles, entre les tissus conjonctifs périodontaires et les éléments conjonctifs articulaires".

J'ajoute enfin qu'à ce même 12^e Congrès de Stomatologie, le Pr Michel DE-CHAUME était sévère pour les tentatives de réactivation thermique en matière de pyorrhée. Il semble avoir changé d'opinion, puisque le dernier ouvrage de sa collection, écrit par O. NOEPPPEL, comporte un chapitre XIII sur le "*thermalisme et thalasso-thérapie paradentaires*".

Il serait donc logique de pouvoir travailler à la source sur place, principe même du thermalisme; des stations intelligentes l'ont compris et ont installé des services de crénothérapie buccale:

- la Lenk en Suisse (Hans Weissenfluh, depuis 1938)
- Bad, Pyrmont en Allemagne (Pr Fischer de Göttingen) et Eichenlor à Wildbad = 4 installations diverses.
- Baden, près Wien (Autriche), Pr Loos et Schuh
- Salsomaggiore (Italie), Augusto Pechioni
- Momin Prohod (Bulgarie) Kalmi de Sofia (2 médailles d'or de santé)
- Posos de Caldas (Brésil), Pr Ribeiro da Silva
- Enghien-les-Bains (près Paris, sous l'égide de l'Arpa française)

Aix-les-Bains, portant un des berceaux de la technique thermale, n'a pas jugé bon d'installer un service de parodontologie dans ses Thermes Nationaux.

Seule la petite source secondaire de Marlioz a réalisé une installation, encore incomplète.

Trop d'obstacles s'y opposent, surtout l'antagonisme des rhumatologues et de certains odonto-stomatologistes qui ne voient pas, ou ne veulent pas voir, l'intérêt thérapeutique du thermalisme en pyorrhée.

Force m'a donc été de réaliser, non plus de thermalisme au sens vrai, mais un traitement *thermo-hydraulique* de la pyorrhée.

Il est peut-être moins idéal, moins efficace que le premier, mais d'autre part, si l'on considère la grande variété des eaux employées à l'état natif (carbonique à St-Moritz, en Suisse, arsénicale à la Bourboule, chloro-magnésienne à Châtel Guyon, sulfureuse à Enghien) on peut se demander, en face de cette diversité, si la *qualité* de l'eau importe tellement dans son efficacité.

Peut-être telle ou telle source, comme l'a écrit BOSSARD, par sa richesse en substances sulfureuses, carboniques ou ioniques, peut agir efficacement dans tel cas *spécifique*, mais, dans la grande majorité, un corps chimique très simple s'avère polyvalent et particulièrement actif: le chlorure de sodium ou sel marin.

Deux auteurs, BOISNIÈRE et BOSSARD, ont très bien étudié la réactivation gingivale par le *sel marin*, lequel, en solution hypertonique, a un pouvoir osmotique plus grand que celui de toutes les eaux thermales: par drainage, il désintoxique mieux le parodonte".

Cette affirmation, BOSSARD l'a prouvée en s'appuyant sur les travaux expérimentaux du Pr HELD et de EMERY et sur les recherches histologiques de MULLER.

Les propriétés de la solution saline sont multiples:

- elle raffermir les gencives amollies et saignantes, par son pouvoir tonifiant et hémostatique;
- elle a un effet hygroscopique et exosmotique;
- elle stimule la phagocytose: ceci explique la rapidité de nettoyage des foyers d'infection, la disparition du foetor oris;
- enfin, de par son fort pouvoir de dissociation, elle désagrège le tartre.

Cette solution administrée à la température de 38 à 45° s'appuie aussi sur la thermalité.

Celle-ci a un rôle éminemment décongestionnant (vaso-dilatation périphérique suivie de décongestion capillaire).

WEISSENFLUH fait remarquer que l'action en profondeur est due surtout à



FIG. 1

Irrigateur endobuccal de Weissenfluh

l'apport de chaleur (confirmé par les mesures de SCHUH de WIEN), lequel a d'ailleurs fait des mensurations thermiques, à l'aide de l'électro-tastomètre dans le but de vérifier objectivement l'action thérapeutique réactivante de l'eau:

- avec l'eau ordinaire, il y a élévation de 0.8°C.;
- avec l'eau sulfureuse thermale, il y a élévation de 1.3° qui se maintient 30 minutes après le bain;
- avec 0.3° plus élevé chez les parodontopathiques que chez les individus sains.

De plus, la chaleur a un rôle sédatif sur les terminaisons nerveuses gingivales et renforce encore le pouvoir osmotique de la solution salée.

Avec l'eau saline artificielle, nous aurons donc en profondeur une élévation thermique inférieure d'un demi degré par rapport à l'eau thermale naturelle, mais d'autre part l'effet osmotique est meilleur.

A défaut de pouvoir pratiquer librement le thermalisme au griffon, j'ai donc réalisé dans mon cabinet une installation thermohydraulique saline (présentée déjà au Congrès de Venise 1955).

Car il nous a semblé, ainsi qu'à KELLER (de Rheinfelden), que la composition chimique du bain buccal n'était pas primordiale dans le traitement thermohydraulique.

- Ce qui compte, c'est d'abord l'exosmose (et nous venons de voir qu'elle est obtenue facilement par une solution saline hypertonique).
- C'est ensuite l'effet thermique (qui permet la pénétration en profondeur)
- C'est enfin, et surtout, l'effet mécanique.

Parodiant un proverbe français: "La façon de donner vaut mieux que ce qu'on donne", examinons maintenant la façon d'appliquer l'eau saline, autrement dit l'appareillage.

Nous employons en cabinet deux sortes d'appareils complémentaires:

- l'irrigateur de Von WEISSENFLUH (fig. 1)

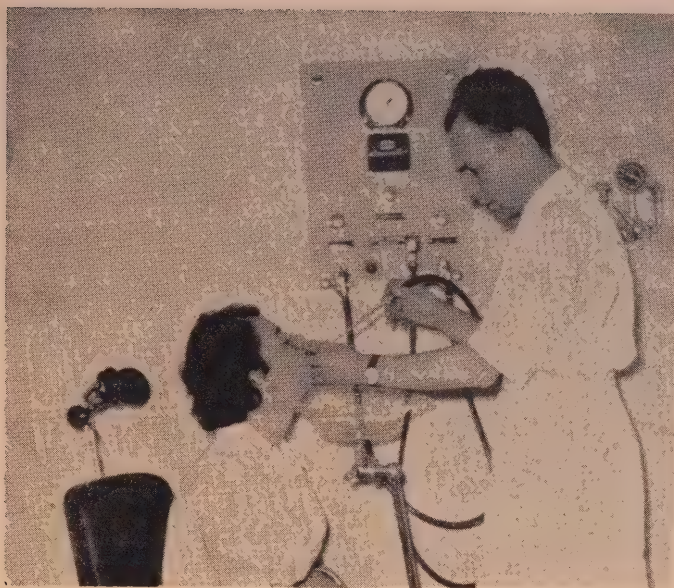


FIG. 2

Douche filiforme gingivale de Couturier

— la douche filiforme gingivale (fig. 2) qui ont chacun leur utilité respective.

1° — Dans l'irrigateur endo-buccal de WEISSENFLUH, interviennent deux facteurs:

— la durée d'application et la masse d'eau appliquée:

80 à 100 litres d'eau à faible pression passent en bouche en 20 minutes; il y a ainsi contact intime de la solution et des tissus, se traduisant par l'imprégnation continue favorable à l'osmose, l'action analgésique très nette sur les collets sensibles, la diminution de l'halitose et la désagrégation appréciable du tartre.

Cette irrigation générale, préparatoire, de la cavité buccale, constitue une sorte de test permettant de repérer les zones muqueuses particulièrement déficientes, qui apparaissent en violet sur un fond de muqueuse rose.

L'irrigateur WEISSENFLUH permet ainsi un créno-diagnostic de l'atteinte parodontale.

2° — Dans un 2° temps, sur ces dernières zones révélées plus profondément atteintes, est appliqué localement le *jet filiforme*.

Sa précision et sa plus forte pression en font un bistouri hydraulique permettant la crénochirurgie des clapiers et l'obtention de la phase défensive sclérogène.

Nous inspirant de la Douche Filiforme de VEYRIERES (de La Bourboule) employée en dermatologie, nous avons conçu (avec mon ami le Dr BIETH) un appareil de Douche Filiforme gingivale, qui utilise un jet d'eau très fin sous une pression considérable (5 à 10 kgs/cm²): cette aqua puncture peut être considérée, suivant le mot de VEYRIERES, "comme une

curette intelligente qui détruit électivement les tissus pathologiques”.

Ce traitement thermo - hydraulique s'échelonne sur 12 à 20 séances alternées (WEISSENFLUH-Filiforme), après un détartrage aussi complet et minutieux que possible, au moyen des instruments de TOFF-HELD, détartrage complété éventuellement par le meulage articulaire et la contention par attelle ou ligature. En conclusion, sur la réactivation, il ne saurait être question, pour le traitement thermal ou thermo - hydraulique, d'amener la guérison définitive (car la pyorrhée se soigne, mais ne guérit pas), mais de stimuler les tissus déficients et de reculer au moins le seuil de la récidence.

III° — CONTENTION

3° — Si le détartrage et la réactivation hydraulique améliorent les parodontoses inflammatoires causées par des stress toxiques ou infectieux où l'ébranlement n'est pas considérable, il est d'autres cas de parodontoses atrophiques, dégénératives, dans lesquelles la *contention* est obligatoire, car la stabilisation par contention favorise, plus que tout autre solution, la cicatrisation de l'os alvéolaire. Cette contention peut seule, il me semble, mettre à l'abri du stress *traumatique*.

Le problème se pose de choisir entre:
— la contention mobile
— la contention fixe.

Personnellement, j'ai opté pour la contention *fixe*, estimant que la réparation de l'os alvéolaire se fait d'autant mieux que l'immobilisation de ou des dents coupables est mieux assurée.

Dans le but de sauvegarder le ligament circulaire des dents déchaussées, nous avons essayé de placer des *bandeaux d'or ou d'argent* scellés; ce procédé, comme vous le voyez, pêche par défaut d'esthétique et a l'inconvénient de se desceller assez fréquemment.

En regardant une bague de femme, et la façon dont la pierre était enchatonnée, retenue par des griffes, j'ai eu l'idée d'essayer sur les dents mobiles ce mode de fixation. L'examen clinique et radio-

graphique montrent les dents qu'il est nécessaire d'extraire. Cette extraction ne se fera que dans la dernière phase du travail, au moment de poser le bridge qu'on va préparer d'abord au laboratoire, ceci pour ne pas laisser d'intervalle entre l'extraction et la pose du bridge.

La technique en est simple:

- a) au cabinet
- b) au laboratoire

a) *au cabinet:*

ancrages pris sur dents *solides* les *plus* près possible de la zone mobile.

- si les dents-piliers sont dépulpées, elles sont munies d'une couronne si la dent est postérieure
- si les dents-piliers sont dépulpées, d'une couronne fenêtrée si la dent est antérieure (souci d'esthétique)
- si les dents-piliers sont vivantes, couronnes fenêtrées devant ou simple anneau d'or bouterollé.
- la radio préalable montre la ou les dents irrémédiablement condamnées: le bloc des dents (mobiles + piliers) est ligaturé au fil de laiton: articulation statique prise, empreintes haut et bas au Zelex.

b) *au laboratoire:*

1° — empreintes coulées en 2 temps, au *vibrateur*, non renversées (pour ne pas déformer, ni étirer, ni bulles). Une fois le socle de base terminé en plâtre dur, les 2 socles sont coulés en articulation au plâtre blanc normal, (articulateur dynamique)

2° — l'attelle à griffe est tracée au *paraléliseur*; la ou les dents condamnées sont coupées sur le modèle, une alvéole est creusée dans le plâtre (longueur de la future racine calculée d'après la radio préalable)

3° — la cire d'armature est enlevée du modèle avec *autant de tiges* de coulée qu'il y a de griffes et placée dans un revêtement sans retrait.

4° — Une fois l'armature décapée et ajustée (en or platiné) il reste à faire le pontique (fausse racine en céramique) de la teinte choisie préalablement. L'appareillage est prêt à être placé en bouche.

en bouche:

légère anesthésie, ligature enlevée, la ou les dents sont extraites, détartrage terminé Puis l'attelle-contention est scellée	}	25 minutes en tout
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En résumé sur cette contention originale,
3 précautions à prendre:

- a) que le métal ne lèse pas le ligament
- b) que l'attelle elle-même ne recouvre pas la *face palatine* (trépanation éventuelle, si la dent s'infecte ou se dévitalise a retro) ni la *base du triangle interdentaire* (pour permettre le détartrage, le passage des poils de brosse, et le nettoyage absolu.
- c) si les dents doivent être sacrifiées (radio), elles sont montées directement sur l'attelle au laboratoire, la dent est extraite au moment de la pose, la fausse racine étant calculée d'après la radio préalable (dent résine peut être rajoutée si s'élimine une des dents enchassées)

En résumé, l'attelle à griffes réalise en fixe ce que réalise une variante de l'attelle d'ELBRECHT en mobile, ou le splint mobile anglo-saxon, ou le Pontostructor du Suédois KARLSTROM en fixe (mais, dans ce dernier cas, les inlays à 3 pivots sont remplacés par des griffes) et présente les avantages suivants:

- maximum esthétique respecté
- immobilisation dans tous les sens; faite en or, elle est souple et non rigide comme avec l'acier.
- trauma articulaire amorti
- pas d'atteinte dentinaire et respect de l'intégrité pulpaire
- soins d'hygiène journalière possibles
- pression répartie également, sans surcharge des dents — piliers; l'expérience remonte à 7 ans et a l'air de donner des résultats encourageants. Elle pourrait avoir l'inconvénient de provoquer des caries aux points de contact: nous n'en avons pas encore observé jusqu'ici chez des sujets d'hygiène journalière correcte.

IV° — ADJUVANT ANTI-BACTÉRIEN.

Enfin, un dernier domaine à ne pas négliger: celui du facteur infectieux intervenant dans toutes les formes de parodontopathies, inflammatoires ou atrophiques.

Ces 3 temps que nous venons d'exposer (détartrage, réactivation, contention) sont des moyens locaux; ils ne sont que des palliatifs et des antisymptomatiques qui ne mettent à l'abri ni de l'aggravation, ni des récidives.

Reste le principal: frapper, sinon la cause, du moins l'une des causes principales de la parodontose.

Et cette cause, c'est *l'infection*.

Certes, la logique veut que nous admettions que la parodontolyse est principalement une dystrophie osseuse et que l'infection ne semble que secondaire. Cependant cette infection donne à réfléchir:

- elle est *constante*, aussi bien dans les formes pyorrhéiques que sèches, à titre primitif ou secondaire.
- elle est *l'obstacle* majeur à la possibilité de tout réattachement épithélial, à toute réinsertion gingivale: CARRANZA (de Buenos-Aires) l'a amplement démontré.
- elle est enfin *chronique*, responsable des récidives trop souvent constatées et cette forme même de l'infection explique que divers anti-infectieux employés ne peuvent être directement efficaces.

Ces 3 caractères particuliers de l'infection parodontosique sont illustrés de façon absolue par la thérapeutique cellulaire de Paul NIEHANS: cette thérapeutique, essentiellement régénérative, ne peut pas être appliquée aux parodontoses pyorrhéiques, car la cellule embryonnaire fraîche est *détruite par l'infection* aussi bien que par les radiations.

Il est alors difficile d'admettre qu'une cellule *adulte* et partiellement lésée, puisse récupérer pleinement chez le parodontosique; sa capacité fonctionnelle, du moment que la cellule foetale apportée par la celulothérapie, cellule douée d'un potentiel

de vie immense, ne peut s'intégrer dans un parodonte infecté.

Ce premier point posé, à savoir que la suppression de l'infection est une condition sine qua non à toute thérapeutique paradentaire, il reste à identifier cette infection.

Cette identification, reconnaissons-le, reste le point particulièrement litigieux. Mais son importance n'échappera à personne, puisque d'elle dépend le choix entre les 2 thérapeutiques *générales* sans lesquelles les thérapeutiques locales resteraient inefficaces.

- L'élément infectieux reste donc controversé quant à sa nature et à sa composition:
- Pour les uns, il y a un germe spécifique aérobie, d'origine digestive et apporté à la gencive par voie hématogène: c'est l'enterococcémie de R. VINCENT.
- Pour d'autres, les germes anaérobies priment et viennent de la flore fondamentale du milieu ambiant: c'est l'allergie putride de LEHMANS.

Et ces auteurs opposent au germe infectant le traitement *vaccinal* (soit spécifique, soit désensibilisant).

Jusque là tout irait bien. Mais si on analyse l'image bactériologique du cadre direct des lésions pyorrhéiques (c'est-à-dire du milieu salivaire, du tartre, du contenu des clapiers, de la surface muqueuse et du sang gingival), et si on saisit dans son ensemble ce bactériogramme par l'emploi systématique des *cultures complètes* (c'est-à-dire en aérobie et en anaérobiose), on s'aperçoit avec des bactériologistes sérieux (LEHMANS, VINCENT, et PREVOT de Paris, MIOTTI de Venise, l'allemand KLINGE, BERGER de WIEN, etc. . .), que l'image bactérienne de la parodontose est, non unique et constante, mais complexe et variable. Ces observations sont concordantes pour PERET, BOBER, ALBANESE, JARAMILLO, HARRISSON, ROSEBURY, DONALD, REED, ENGELMAN, BROW et COXON). La confrontation de ces chercheurs internationaux permet de constater que si le polymicrobisme de la cavité buccale est

très grand, par contre l'image bactériologique de la parodontose est moyenne.

Elle comprend 7 ou 8 variétés

- soit aérobies: strepto
entéro
staphylo
diplopleumonioe
- soit anaérobies: protozoaire
spirochètes associés ou
non aux spirilles
borréliés, tréponèmes.

En résumé, il y a peut-être et souvent de l'entérocoque, *mais il n'y a pas que de l'entérocoque* et il n'origine pas que de l'intestin car, s'il en était ainsi, l'auto-vaccin suffirait à la thérapeutique générale de la pyorrhée.

Or, il n'y suffit pas, pour la bonne raison qu'il y a d'autres germes en cause, mis en évidence par l'ensemencement complet (et non fractionnaire). Le Pr WARD (de San Francisco), présentant l'an dernier à Paris son très beau film sur la gingivectomie, reconnaissait de son côté 25 espèces microbiennes. Que penser, dans ces conditions, du pouvoir vaccinal, qu'il soit spécifique ou polyvalent?

Au surplus, deux méthodes vaccinales qui paraissent opposées (mono-vaccin aérobie, polyvallin anaérobies) permettent d'obtenir les mêmes résultats du point de vue clinique: il est alors permis de se demander si les traitements biologiques n'ont pas de base autre que le germe lui-même, mais une base uniquement protéinique: ne parlons plus alors de vaccino-thérapie, mais de protéinothérapie désensibilisante, et reconnaissons qu'il est difficile d'opposer *uniquement* le pouvoir du vaccin (ou de la protéinothérapie) au facteur infectieux polymorphe.

Ce deuxième point étant examiné, à savoir la valeur insuffisante de la vaccinothérapie, abordons maintenant la deuxième méthode qu'est l'antibiothérapie.

Apparaît-elle supérieure à la vaccinothérapie: oui, puisque des affections graves, et qui aboutissaient rapidement à l'issue fatale *malgré le vaccin* et malgré les sulfamides, ne le sont plus depuis l'avènement des antibiotiques.

Compte tenu du caractère particulier de l'infection parodontosique, l'antibiotique s'avère une arme de choix de par son mode d'action différent des antimicrobiens chimiothérapiques ou vaccinaux, de par sa grande diffusibilité qui permet une rapide concentration hématique et permet d'espérer une stérilisation des foyers profonds. Mais là, un danger se précise: la *chronicité* de cette infection donnerait la tentation de faire appel

- soit à un antibiotique à spectre très étendu, amenant une rapide accoutumance de l'organisme et génératrice d'effets seconds.
- soit à une polyantibiothérapie encore plus dangereuse.

En pathologie générale, nous observons depuis 15 ans la supériorité incontestable des antibiotiques sur les autres anti-infectieux. Mais les éclatants succès remportés sur l'agent microbien spécifique ne sont pas toujours sans risques, comme le rappelle Gustave CONSTANT.

En parodontologie, la difficulté semble accrue parce qu'il n'y a pas de germe spécifique, parce que l'infection est chronique et parce que dans ces conditions l'antibiothérapie prolongée risque d'être semée d'embûches.

En effet, à côté de son action directe (toxicité), l'antibiotique est susceptible d'exercer des effets seconds non moins redoutables: ces effets seconds, apanage des antibiotiques à *large spectre* sont dus:

- d'une part aux propriétés allergisantes du produit (intolérance);
- d'autre part à la perturbation de la flore utile;
- enfin à l'accroissement de la résistance de l'organisme

Sans entrer dans le détail, rappelons brièvement:

- pour la toxicité: que certains antibiotiques sont de véritables poisons pour l'organisme,
- pour l'intolérance: que certains autres donnent des chocs anaphylactiques plus ou moins aigus, ainsi que des éruptions cutanéomuqueuses;

- La rupture des équilibres microbiens normaux, qui est surtout le fait des antibiotiques à large spectre, est responsable d'accidents gastro-intestinaux, de mycoses, de surinfection, d'avitaminoses intestinales.

L'administration non compensée d'antibiotiques, soit par voie buccale pour la parodontose, soit par voie locale (pastilles) pour la parodontite peut donner un rôle pathogène au *Candida albicans*, qui normalement est saprophyte de la muqueuse buccale. Cette candidose se manifeste en bouche par la mélanoglossie. Et il faut alors adjoindre un fongicide polyvalent atoxique (genre mycostatine).

- Enfin, l'accroissement de la résistance de l'organisme nous invite à n'employer qu'un antibiotique dont les résistances spécifiques croisées sont très faibles.

En conclusion, l'antibiotique idéal en parodontologie doit répondre aux 7 critères suivants:

- 1° — avoir un spectre antibactérien *restreint*, puisque nous avons constaté que l'image bactériologique de la parodontose est elle-même moyenne;
- 2° — n'être pas toxique;
- 3° — avoir une tolérance stomacale et intestinale presque parfaite;
- 4° — ne pas perturber la flore intestinale utile (représentée par les colibacilles, coliformes, protéus et aerobacter) et ne pas déclencher de moniliase buccale;
- 5° — avoir une action, *germicide* forte sur les Gram + et les microbactéries (du genre corynébactéries)
- 6° — ne pas offrir de résistance spécifique ni de résistance croisée avec les autres mycoïnes;
- 7° — enfin être actif sur les germes *résistants* aux antibiotiques usuels car, il faut le reconnaître, on a souvent essayé de traiter la parodontose d'une façon abusive ou intempestive: les germes se sont mithridatisés et nombre de mycéliens ont perdu de leur pouvoir inhibiteur.

Par comparaison et par élimination, un seul antibiotique remplit pleinement ces exigences.

Cet antibiotique est la SPIRAMYCINE, (ou Rovamycine) d'origine française, isolé en 1954 par Sylvie SINNERT-PIN-DICO et ses collaborateurs NINET, PREUDHOMME et COSAR dans les Services de recherche de Rhône-Poulenc.

En France, DALIGAND et PELLERAT (de Lyon) furent les premiers à l'essayer dans le cas de parodontopathies sévères et rebelles à d'autres traitements.

Ce fut, pour mon ami HESS et moi-même qui l'étudièrent par la suite, une révélation, que nous avons exposée en détail à Paris et à Bruxelles.

La posologie pratique, si elle subit quelques variantes avec chaque auteur, se ramène à ceci: la SPIRAMYCINE étant présentée sous forme de comprimés à 0.25 gramme, une dose de 0.5 gramme à 1 gramme pendant 15 jours en 2 ou 4 prises journalières, équilibrée par de l'ultra-lévure et de la vitamine B6 (Becilan), donne une concentration hématique rapide et favorable. Cette cure de 15 jours peut être renouvelée.

Les résultats sur les états pyorrhéïques se manifestent d'une façon constante et stable.

- par la disparition rapide de l'halitose et du foetor oris
- parallèlement, la suppuration s'atténue pour se tarir vers le 15^e ou 20^e jour et les phénomènes inflammatoires regressent, ainsi que les gingivorragies; les gencives reprennent une coloration et une tonicité normales. La mobilité dentaire diminue, la fonction masticatoire se récupère de façon satisfaisante pour le malade.

Cette amélioration, comme l'a remarqué HESS, est durable et a tendance à augmenter avec le temps. Personnellement, ayant absorbé 4 comprimés par jour de ROVAMYCINE pendant 2 mois consécutifs, j'ai été étonné de constater, à côté d'une amélioration buccale spectaculaire, une parfaite récupération du tonus physique et psychique normal, effet bénéfique décrit dans la thèse remarquable de Claudy LABARTHE.

CONCLUSIONS SUR LA ROVAMYCINE

La SPIRAMYCINE, si elle comble heureusement une lacune dans notre arsenal thérapeutique pour le traitement si ingrat de la parodontose, n'est cependant pas une panacée, ni un remède miracle.

Dans des cas bien délimités (graves ou dans lesquels ont échoué les traitements classiques) avec au besoin l'aide du laboratoire qui permet, grâce à l'antibio-gramme, une antibiothérapie dirigée et non approximative, elle permet d'obtenir contre peu de risques des résultats plus qu'encourageants et souvent inespérés.

La SPIRAMYCINE n'est pas un traitement en soi, n'autorise pas la suppression des manoeuvres locales de base et n'apporte qu'une aide complémentaire et adjuvante.

Du point de vue traitement général qui reste indispensable, notre expérience nous permet de poser que l'antibiothérapie nous apparaît supérieure à la vaccinothérapie, et que, par comparaison aux autres mycéliens, la SPIRAMYCINE, de par son activité puissante, rapide (même à faible dose) et élective sur le bactériogramme parodontosique en particulier sur les germes résistants, de par sa parfaite tolérance gastro-intestinale, la SPIRAMYCINE s'avère actuellement l'antibiotique le meilleur, de sécurité et d'avenir.

CONCLUSIONS GÉNÉRALES

Ces 4 temps: — détartrage

— réactivation

— contention

— traitement anti-infectieux adjuvant

sont 4 phases différentes, mais complémentaires, d'une tentative de traitement d'ensemble, local bien entendu, car nous laissons au médecin de médecine générale toute initiative justiciable sur le plan général, et qui permettent au praticien moyen de se débrouiller dans la majorité des cas: certes il y a des désillusions, des échecs mais qui n'en a pas eus? Au lieu de se décourager, j'estime qu'il faut au contraire voir ce qui peut occasionner ces déboires et essayer de se perfectionner: ce n'est pas toujours facile, lorsqu'on est

isolé, travaillant loin d'un centre universitaire et livré à ses seules ressources!

Il ne faut pas s'attendre à des résultats sensationnels, car la parodontologie est peut-être, dans les différentes disciplines stomato-odontologiques, la plus décevante: la parodontose est en effet une affection cyclique, récidivante, qui se soigne mais ne se guérit pas: à défaut de "restitutio ad integrum" (puisque les lésions sont irréversibles), on peut toujours espérer une stabilisation structurale et

une récupération fonctionnelle. C'est la recherche de ce résultat qui rend la parodontologie, à priori si décevante, une science particulièrement *attachante*, et très intéressante de par la complexité des cas divers.

Si la parodontologie n'en est qu'à son début, l'effort des chercheurs de tous les pays arrivera peut-être un jour à trouver une solution au problème, et, comme disaient les anciens spartiates "Nous deviendrons de beaucoup meilleurs."

Nouvelles du Corps Dentaire Royal Canadien

Le brigadier Baird visite le Camp Borden

Le brigadier K. M. Baird, directeur général des Services dentaires, s'est rendu au Camp Borden (Ont.), les 14 et 15 août, pour assister à la revue de fin des cours des seconde et troisième périodes d'instruction pratique du Programme d'instruction pour la formation d'officiers des forces régulières (ROTP), à l'Ecole du RCDC, ainsi qu'aux exercices de fin de semaine des élèves-officiers, à l'Ecole du Corps d'infanterie royal canadien, où les étudiants en art dentaire suivent leur premier cours d'été dans le cadre du ROTP.

Cours

Le major D. H. Hillier, de Toronto, suit actuellement un cours de neuf mois en hygiène dentaire publique, à l'University of Michigan, à Ann Arbor, Michigan.

Le major F. D. Charman, Griesbach Barracks, Edmonton, a suivi un bref cours en endodontie, à l'Université d'Alberta, du 31 août au 3 septembre.

Affectations

Le lieutenant-colonel W. R. Cunningham, qui était en service à Camp Borden (Ont.), a été affecté au HMCS "Stadacona," Halifax (N.-E.), à compter de juillet 1959.

Le major I. W. Susser, qui était en service à la Station de l'ARC, à Portage-la-Prairie (Manitoba), a été affecté à la Station de l'ARC, à Greenwood, (N.-E.), à compter de septembre 1959.

Le capitaine J. F. Eadon, qui était en service à la Station de l'ARC, à Clinton (Ont.), a été affecté au QG de Fort Churchill (Manitoba), à compter de juillet 1959.

Le capitaine R. D. Welsh, qui était en service au HMCS Naden, à Esquimalt (C.-B.), a été affecté au QG du Secteur militaire de la Colombie-Britannique, à Vancouver (C.-B.), à compter d'août 1959.

Le capitaine E. G. Baird, qui était en service à la clinique dentaire du Quartier général de l'Aviation royale du Canada, à Ottawa, a été affecté à l'Ecole d'artillerie royale canadienne (D.C.A.), à Picton (Ont.), à compter de juillet 1959.

Le major W. W. Anglin, qui était en service à l'Ecole d'artillerie royale canadienne (D.C.A.), à Picton (Ont.), a été affecté au Camp de Petawawa (Ont.), à compter de juillet 1959.

Le major L. R. Pierce, qui était en service à la Station de l'ARC, à Clinton (Ont.), a été affecté à la Station de l'ARC, à Downsview, à compter d'août 1959.

Le capitaine H. J. Cashin, qui était en service au QG de Fort Churchill (Manitoba), a été affecté à la Station de l'ARC, à Winnipeg (Manitoba), à compter de juillet 1959.

Le capitaine J. L. Bertrand, qui était en service à la Station de l'ARC, à Bagotville (P. Qué.) a été affecté à la Station de l'ARC, à Saint-Jean (P. Qué.), à compter d'août 1959.

Association du RCDC

La douzième réunion annuelle de l'Association du Corps dentaire royal canadien s'est tenue au Parkway Motel, 475, rue Rideau, Ottawa, les vendredi et samedi, 30 et 31 octobre 1959.

Le dîner annuel a eu lieu au mess des officiers de l'Aviation, rue Gloucester, le vendredi, 30 octobre 1959, à 7 heures et demie de l'après-midi.

Relevé sur l'économie de l'exercice dentaire — 1958

V) DÉPENSES, PATIENTS, HONORAIRES

La deuxième partie de ce rapport montrait que la moyenne des revenus nets des dentistes du Canada se chiffrait à 52.9% des revenus bruts. La partie la plus considérable de cette différence de 47.1% consacrée aux dépenses de l'exercice dentaire en 1958 s'appliquait aux dépenses de laboratoire et se chiffrait à 24.8% du total (25%).* Venaient

ensuite dans cet ordre, les salaires des employés, les fournitures dentaires et le loyer. Les dépenses faites dans tout le Canada en général sont à peu près identiques à celles de 1953. Le tableau no 20 montre dans quelles proportions est dépensé chacun des dollars des dentistes pour leur pratique.

TABLEAU NO 20
Dentistes travaillant à leur compte
Moyenne des dépenses annuelles de l'année-1958

items	moyenne des dépenses	pourcentage de la moyenne de toutes les dépenses	pourcentage de la moyenne des revenus bruts
loyer	\$1,004	12.3%	5.1%
services publics	286	3.5	1.5
assurances	128	1.5	.6
laboratoire	2,030	24.8	10.3
fournitures	1,483	18.1	7.5
salaires	1,820	22.2	9.2
dépréciation	545	6.7	2.8
autres	893	10.9	4.5
relevé de l'exercice dentaire de l'A.D.C.: 1958			

* Les chiffres entre parenthèses sont ceux de l'enquête de 1953.

TABLEAU NO 21
Dentistes travaillant à leur compte
Moyenne des dépenses annuelles par provinces—1958

items	C.-B.	Alta.	Sask.	Man.	Ont.	Qué.	N.-B.	N.-E.	I.P.E.	T.-N.	Vides
loyer	\$1,173	\$1,043	\$1,021	\$ 922	\$1,026	\$ 920	\$ 837	\$ 696	\$ 554	\$1,116	\$ 702
services publics	305	332	236	252	283	297	288	227	189	325	185
assurances	112	91	89	69	102	251	104	130	191	110	106
laboratoire	2,133	2,016	2,793	2,354	1,994	1,836	2,467	1,713	1,377	1,987	1,553
fournitures	1,758	2,012	1,787	1,452	1,436	1,139	1,524	1,128	928	1,714	1,927
salaires	2,332	1,889	1,788	2,121	1,975	1,198	1,064	1,202	649	2,078	1,556
dépréciation	721	1,008	541	509	481	393	407	381	297	981	723
autres	1,202	952	1,018	759	934	588	950	810	670	859	576
	\$9,736	\$9,341	\$9,273	\$8,438	\$8,231	\$6,622	\$7,641	\$6,287	\$4,855	\$9,170	\$7,328

TABLEAU NO 22
Dentistes travaillant à leur compte
Moyenne du nombre des patients et des rendez-vous

Provinces	moyenne du nombre de patients par dentiste	moyenne du nombre des rendez-vous par dentiste	moyenne du nombre des rendez-vous par patient
Vides	832	1,918	2
C.-B.	846	2,559	3
Alberta	1,158	2,508	2
Saskatchewan	1,378	2,657	2
Manitoba	918	2,164	2
Ontario	972	2,665	3
Québec	1,037	2,118	2
N.-B.	1,169	2,687	2
N.-E.	928	2,644	3
I.-P.-E.	429	1,602	4
Terre-Neuve	951	2,705	3
Canada	1,000	2,509	2.5

relevé de l'exercice dentaire de l'A.D.C.: 1958

Le tableau no 21 donne par province des détails au sujet des dépenses. Le tableau précédent montrait que les dépenses de laboratoire, à travers tout le Canada, constituaient l'item le plus onéreux de toutes les dépenses. Mais cette constatation n'est pas la même pour toutes les provinces. En Colombie britannique et en Terre-Neuve, par exemple, les salaires aux employés constituent l'item le plus important des dépenses. Le total des dépenses en 1958 est le plus élevé en Colombie-britannique et le plus bas dans l'Île-du-Prince-Édouard.

Les dentistes canadiens en moyenne, selon le tableau no 22, traitent chacun 1,000 patients et consacrent à chacun de ces patients 2 séances et demie. Les chiffres fournis par le 1070 patients et 2.3 séances pour chacun d'eux. Le relevé de 1953 sont à peu près les mêmes: Les statistiques de 1958 semblent donc indiquer que les 5,800 dentistes du Canada ont traité 5,800,000 personnes ou 34% de la population; le nombre des gens qui se font traiter ne paraît donc pas augmenter aussi rapidement que la population du pays.

TABLEAU NO 23

Dentistes travaillant à leur compte
Moyenne du nombre de séances
Niveau des revenus nets

moyenne du nombre des séances pour chaque patient	niveau des revenus nets	moyenne du nombre des patients
vides	691	1,778
1- 949	674	1,116
950- 1,949	285	1,038
1,950- 2,949	302	794
2,950- 3,949	516	1,300
3,950- 4,949	576	1,407
4,950- 5,949	736	1,707
5,950- 6,949	880	1,877
6,950- 7,949	934	2,088
7,950- 8,949	956	2,190
8,950- 9,949	1,070	2,691
9,950-10,949	972	2,617
10,950-11,949	1,090	2,781
11,950-12,949	1,316	3,017
12,950-13,949	1,024	3,010
13,950-14,949	1,084	2,823
14,950-15,949	1,191	3,068
15,950-16,949	1,242	3,085
16,950-17,949	1,202	3,172
17,950-18,949	1,378	3,218
18,950-19,949	1,403	4,081
19,950-24,949	1,146	3,266
24,950-29,949	1,680	4,882
29,950- & over	2,052	3,766

relevé de l'exercice dentaire de l'A.D.C.:
1958

Le tableau no 23 indique la relation qui existe entre le nombre des patients et celui de leurs rendez-vous avec le niveau des revenus nets. On peut noter que, malgré certaines exceptions, les revenus nets augmentent en général avec le nombre des patients et celui des séances de traitement.

Le tableau no 24 montre les honoraires perçus pour quatre genres de traitements dentaires. En additionnant ces quatre chiffres pour chacune des provinces, on peut établir une liste des provinces dans l'ordre de leurs honoraires, des plus élevés aux plus bas. Cette liste est la suivante et elle est comparée à celle de 1953.

1953	1958
Colombie britannique	Colombie britannique
Alberta	Alberta
Manitoba	Saskatchewan
Québec	Ontario et
Ontario	Terre-Neuve
Saskatchewan	Manitoba
Terre-Neuve	Nouveau-Brunswick
Ile-du-Prince-Edouard	Québec
Nouveau-Brunswick	Nouvelle-Écosse
Nouvelle-Écosse	Ile-du-Prince-Edouard

Le rapport est maintenant terminé. On a réussi à obtenir ces renseignements grâce à la collaboration des dentistes qui ont répondu au questionnaire. Il est à souhaiter que les membres de l'Association pourront tirer des avantages personnels en comparant ces statistiques avec leurs propres données. L'Association dentaire canadienne pourra poursuivre son oeuvre avec plus de sûreté à la connaissance des renseignements de toutes sortes qu'a fournie cette enquête.

On pourra se procurer des copies du rapport au complet, après qu'il aura été publié, par tranches, dans les livraisons de décembre 1958, de janvier et de février 1960 du Journal. On s'adresse à l'Association dentaire canadienne, 234 rue St-Georges, Toronto, Ont.

TABLEAU NO 24

Dentistes travaillant à leur compte
Moyenne des honoraires—1958

Province	amalgame à deux faces	incrustation en or à deux faces	obturation en silicate ou plastique	dentier complet
Vides	5.18	18.18	4.45	63.18
Colombie-britannique	5.69	19.91	5.27	68.54
Alberta	4.88	16.61	4.71	69.32
Saskatchewan	4.85	15.97	4.71	70.79
Manitoba	5.31	15.57	4.65	63.29
Ontario	4.85	17.23	4.67	69.23
Québec	4.69	14.23	4.45	57.17
Nouveau-Brunswick	4.41	15.53	4.34	58.13
Nouvelle-Ecosse	4.15	14.29	4.17	58.39
Ile-du-Prince-Edouard	3.45	11.91	3.82	55.91
Terre-Neuve	5.55	14.41	5.32	66.14
Canada.....	4.92	16.64	4.69	66.15

relevé de l'exercice dentaire de l'A.D.C.: 1958

PAGES EDITORIALES

L'enseignement dentaire dans nos universités changera-t-il beaucoup au cours des dix prochaines années?*

L'enseignement que recevra le futur dentiste en 1970 différera-t-il beaucoup de celui de l'étudiant qui fait actuellement son stage d'études? Le docteur J. D. McLean, doyen de la faculté dentaire de l'Université Dalhousie, dans un colloque qui se tenait au cours du Congrès de l'Association dentaire canadienne, tenu à Halifax, en juin dernier, a tenté d'entrevoir l'avenir de l'enseignement dentaire. Cette question de la formation professionnelle du dentiste de demain peut s'étudier sous trois aspects.

Quels facteurs influenceront l'enseignement dentaire?

Les exigences de la population et le comportement de la profession dentaire exercent sur les cours d'études une influence considérable. Les découvertes qui peuvent être faites dans le domaine dentaire et médical impriment aux facultés des caractères différents. On réalise, par exemple, aujourd'hui que les tours à super-vitesse ont déjà modifié quelque peu l'entraînement clinique de l'étudiant en dentisterie opératoire et en couronnes et ponts. Les curricula des facultés devront s'adapter aux nécessités des domaines de recherches, de l'hygiène publique, du personnel auxiliaire, etc. L'attitude des dentistes et l'appui qu'ils accordent aux universités — directement

et indirectement par leur influence sur le public — joueront un rôle important dans l'orientation des programmes d'études et dans leur rendement.

Qu'attendra-t-on de l'enseignement dentaire?

Le dentiste de demain devra avoir reçu une formation générale qui lui permettra de s'adapter aux changements qui, grâce aux progrès rapides de la biologie, ne manqueront pas de se produire dans les sphères du diagnostic et du traitement. Les facultés dentaires devront entretenir chez elles un climat de recherches, qui amoindrira peut-être l'habileté technique des diplômés, mais qui, par contre en fera des praticiens plus ouverts aux nouvelles idées et plus souples pour s'adapter spontanément aux tendances de l'avenir. On suggère, en certains milieux, pour conserver aux nouveaux dentistes leur doigté mécanique tout en leur donnant la formation scientifique nécessaire, d'augmenter le cours d'une année, soit en allongeant les études pré-dentaires (sciences), soit en ajoutant une année au cours de dentisterie (clinique). Il faut pourtant, avant d'effectuer ces changements, songer pour l'étudiant et pour le public aux implications financières inhérentes à ces additions. Les facultés dentaires, face à ces nouvelles tangentes de l'exercice dentaire, devront songer à offrir à la profession des occasions de se familiariser avec ces progrès par des cours post-universitaires et des cours gradués.

*Journal de l'Association dentaire canadienne, septembre 1959, pp 536-538.

L'obligation primordiale des facultés est de fournir au public un nombre suffisant de dentistes. Déjà aujourd'hui, les dentistes ne sont pas assez nombreux pour répondre aux besoins de la population. Cette lacune ira en grandissant avec des mesures possibles d'assurance-santé gouvernementale ou des plans d'assurances d'initiative privée. Durant un quart de siècle, les disponibilités des facultés dentaires n'ont pas bougé pendant que la population du Canada se développait à grande allure. Ce n'est que récemment que quelques universités ont construit de nouveaux édifices ou agrandi leurs locaux pour leur permettre de recevoir des étudiants plus nombreux. Mais ces additions ne suffisent déjà plus.

Le personnel enseignant pourra, avec l'aide des universités ou de fondations philanthropiques, entreprendre des études plus poussées qui lui prodiguera une meilleure formation pédagogique et plus de soucis de la méthodologie dans sa fonction d'éducateur.

Les examens de finissants seront peut-être tous ascessés par un Bureau national d'examineurs pour remplacer les bureaux de chaque province. Les dentistes de demain, il faut le souhaiter, recevront à l'université une formation plus apte à leur intégration dans le milieu social et à leur participation active aux oeuvres d'une démocratie bien comprise.

Que faudra-t-il aux facultés pour jouer le rôle qu'on s'attend d'elles?

On demande aux facultés de former un plus grand nombre de dentistes. Ces invi-

tations ont porté les universités à augmenter leurs propres disponibilités. Peut-être les dentistes devraient-ils dans l'avenir entreprendre, en collaboration avec les Collèges provinciaux, une étude à l'échelle nationale des besoins de chaque région, en songeant à l'établissement de nouvelles facultés dans des centres appropriés; les gouvernements pourraient construire ces écoles, dont le volume serait adapté aux nécessités de l'endroit, si les dentistes expliquaient clairement à leurs concitoyens l'importance et l'urgence de ces initiatives.

Les dentistes ont aussi le devoir moral de diriger vers la dentisterie les jeunes gens qualifiés pour cette vocation. Les facultés dentaires, comme toutes les autres institutions d'enseignement, auront besoin de ressources pécuniaires; mais si, comme certaines campagnes de charité, elles savent toucher la note juste pour leurs demandes, elles ne devraient certes pas éprouver de difficulté à trouver les argents nécessaires.

L'enseignement dentaire des dix prochaines années ira de pair avec l'intérêt, le dévouement et les conseils que lui donneront les dentistes ou les organismes dentaires; les facultés doivent se préparer à former des diplômés qui sauront s'adapter aux tendances sociales et aux données des recherches. Les écoles peuvent parfois exercer une influence, mais leur efforts sont vains, à moins qu'elles soient appuyées par les individus qui forment la profession dentaire du Canada.

GERARD de MONTIGNY.

Volume 26
Number 3
Toronto
March 1960

The Canadian Dental Association

JOURNAL

Two Hundred Years of Evolution:

A Dialectical History*

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PART I

I. In November, 1959 we celebrated the centenary of the publication of Charles Darwin's great book, *The Origin of Species*. In reviewing the long and fascinating evolution of Evolution which has been taking place during the past two hundred

years, one becomes aware of two distinct, but often overlapping, struggles. The first, which I shall call the major dialectic, is a struggle between two opposing hypotheses concerning the role of the environment in directing the evolution of species. The second, or minor, dialectic, is a struggle not between two scientific hypotheses, but rather between the forces of religious or political orthodoxy, on the one hand, and those of scientific objectivity on the other. These two struggles appear in the history of evolution to be like the

*An invited lecture, presented at the meeting of the Canadian Dental Association, June 23, 1959.

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recurrent themes of a fugue, sometimes succeeding one another and at other times blended together contrapuntally so as to be distinguishable only with the greatest difficulty.

II. The clergy, the scientists and the laity in the pre-Darwinian days believed implicitly and almost unanimously in the permanence or fixity of species; that each species had originated by an act of Special Creation by the Creator and had not undergone major modification since.

The authority for this belief was, of course, the legend of the Creation, in the Book of Genesis of the Jewish Bible. It is worth recalling that whilst bibliolatry in extreme form, was restricted to Protestant countries, in no Christian country could doubt be safely cast on the literal accuracy of the Bible, at least until the French Revolution.

Carl Linnaeus, of Upsala, the great 18th Century Father of Systematics and Classification, made many declarations of the immutability of species. (This, and all subsequent translations, are my own. J.G.K.)

"Species are as many as there were forms created in the beginning . . .

There are no new species . . ."

Later, after he had observed sports, or mutants, he conceived that God may have created genera, but that species may have differentiated from them at a later date.

The great Georges - Louis LeClerc, Comte de Buffon, who was Intendant of the Jardin du Roi in Paris, had definite evolutionary ideas, but he took no pains to make them clear. In his *Histoire des Quadrupèdes* (1753), he posed clearly the problem of the origin of species, and asked whether the ass could be considered a sort of degenerate horse:

" . . . ; if it were true that the ass were but a degenerate horse, there would be no limits to the power of nature, and we would not be wrong in supposing that, from one sole being, she was able in time to create all the other organised beings."

Buffon categorically rejected such a hypothesis:

"It is certain, by the Revelation, that all the animals have equally participated in the grace of Creation, that the two first of each species, and of every species, have left the hands of the Creator fully formed, and one must believe that they were then about the way they are represented to us now by their descendants."

Now Guyenot, the Swiss biologist points out that this is "persiflage à coup sûr," a belief which is widely accepted. Why was this persiflage necessary? When Buffon was preparing in 1751 his immortal *Histoire Naturelle*, which comprises not only descriptions of living species but speculations on the origin of the earth and its geological features, the planets, comets, etc., he sent, on request, a copy to the Sorbonne, the Faculty of Theology of Paris.

In his book, he published the following exchange of correspondence:

"Letter from MM. the Deputies and the Syndic of the Faculty of Theology, to M. de Buffon.

Monsieur, We have been informed by one of us, on your behalf, that when you learned that the Natural History, of which you are the author, was one of the works chosen by order of the Faculty of Theology to be examined and censored, as containing principles and maxims which are inconsistent with those of religion, you declared to him that you had no intention of departing from the fold, and that you were disposed to satisfy the Faculty on each of the articles which it might find reprehensible in your above - mentioned work: we cannot, Monsieur, give you too much praise for so Christian a resolution; and to make it possible for you to execute it, we send you the propositions extracted from your book, which appeared to us contrary to the belief of the Church.

We have the honor to be with a perfect consideration, Monsieur,

Your very humble and very obedient servants.

The Deputies and Syndic of the Faculty of Theology of Paris.

In the House of the Faculty, 15 January, 1751.

Propositions, extracted from a work whose title is *Natural History*, and which have appeared reprehensible to MM. the Deputies and Syndic of the Faculty of Theology of Paris.

I. It is the waters of the sea which have produced mountains and the valleys of the earth . . . ; it is the waters of the heavens which, carrying everything back to their level, will one day return this earth to the sea, allowing new continents, similar to those which we inhabit to be discovered.

II. Cannot one imagine . . . that a comet, falling on the surface of the sun will have displaced this star (i.e., the sun, J.G.K.) and that it will have dislodged several little pieces to which it would have communicated a momentum . . . ; such that the planets would formerly have been part of the sun . . .

III. Let us see in what state they (the planets and especially the earth) would be after having been separated from the mass of the sun.

IV. The sun will become extinct, probably . . . for lack of combustible matter . . . The earth, on leaving the sun, was thus burning and in a state of liquefaction.

XIV. (the last, J.G.K.) The soul is imperceptible, by its very nature."

It is noteworthy that ideas of the evolution of the solar system and of the earth are "reprehensible propositions," and not merely those relating to the evolution of species.

Buffon replied in the following words:

"Response of M. de Buffon to MM. the Deputies and Syndic of the Faculty of Theology.

Messieurs: I have received the letter which you have done me the honor of writing me, with the propositions which have been extracted from my book, and I thank you for having given me the

opportunity of explaining them in a manner which leaves neither doubt nor uncertainty concerning the uprightness of my intentions, and if you desire it, Messieurs, I will willingly publish, in the first volume of my work which will appear, the explanations which I have the honor to send you. I am with respect, Messieurs, Your very humble and very obedient servant, Buffon. The 12th March, 1751.

I declare:

I. That I have had no intention of contradicting the text of the Scripture; that I believe very devoutly all which is reported there concerning the creation, both with respect to the order and to the circumstances of the events; and that I abandon everything in my book concerning the formation of the earth and in general everything which could be considered contrary to the narration of Moses, having presented my hypothesis on the formation of the planets as a pure philosophical speculation . . . (et seq. through 10).

Signed, Buffon, the 12th March, 1751.

A second letter from the Deputies and Syndic is appended, announcing receipt of Buffon's explanations, and reporting that they have been presented to and accepted by a general assembly of the Faculty on April 1, 1751.

Having made this 'loyalty oath', Buffon proceeded to publish his entire work, containing his speculations on a natural origin of the earth and solar system, and containing reflections suggesting that species may have been derived one from another.

This is the first example of the many which I shall cite of our minor dialectic, that is, the struggle between the exponents of a particular hypothesis of evolution, on the one hand, and the defenders of religious, political or philosophical orthodoxy on the other. More than 200 years after this exchange, the battle between science and orthodoxy on this question continues.

Under the umbrella of his loyalty oath, Buffon was able to come to espouse a

theory of limited transformation of species. He wrote:

"In comparing thus all the animals and attaching each to its genus, we will find that the 200 species whose history we have treated can be reduced to a rather restricted number of families, or principal branches, from which it is not impossible that all the others have issued."

How did he explain the diversification of species from these principal branches, or families, which were specially created? He specifically cited the environment, more particularly temperature or climate, as having caused these modifications. For example, in man, skin colour was uniquely determined by climate:

"To carry out the experiment of colour change in the human species, it would be necessary to transport some individuals of the black race from Senegal to Denmark, where, since man has generally a white skin, blond hair, and blue eyes, the difference in blood and the contrast of colour is greater. It would be necessary to cloister the negroes with their females, and conserve their race scrupulously without permitting them to crossbreed; this means is the only one which one can use to learn how much time would be necessary to reintegrate the nature of man in this respect, and for the same reason how much time was necessary to have changed it from white to black." This is obviously a precursor of the theories of Lamarck.

It is necessary to consider in some detail the views of Jean-Baptiste-Pierre-Antoine de Monet, Chevalier de Lamarck (1744-1829). Lamarck was convinced of a genuine progressive evolution of species towards a more perfect, more complex form. Since his major contributions to evolutionary theory began at the turn of the 19th Century, well after the French Revolution, he was not subject to the same religious pressures as his predecessor Buffon. At about the time that he published his great *Philosophie Zoologique* in 1809, Laplace, the astronomer, pub-

lished his theory of the creation of the solar system in his *Mécanique Céleste*. When Napoleon commented to him that he had looked in vain for mention of God in this work, Laplace is said to have replied: "Sire, I have no need of that hypothesis!"

Lamarck enunciated two principles, on which his Theory rested:

"First Law: In every animal still within the period of development, the more frequent and sustained use of any organ develops it, enlarges it and gives it a strength proportional to the duration of use, while constant failure to use such an organ weakens it, at first inappreciably, causes it to deteriorate, progressively diminishes its faculties, and finishes by causing it to disappear."

This law of use-disuse is, within limits, perfectly acceptable as an example of physiological adaptation.

"Second Law: Everything which nature has caused individuals to acquire or to lose through the influence of circumstances to which their race has been exposed for a long time . . . she conserves in the generation of new individuals . . . provided that the changes are common to both sexes . . ."

The only experimental evidence cited in support of his second law was an observation of a M. Tenon, a surgeon, who noted that the intestines of heavy drinkers were noticeably shortened. On the basis of his second law, Lamarck explained many phenomena in such a way as to make himself ridiculous to contemporary scientists such as Baron Cuvier, and to succeeding generations. For example, Lamarck stated that whales lacked teeth owing to their habit of swallowing their food whole without chewing, that snakes lost their legs because they adopted the habit of crawling, that giraffes acquired their long necks from having stretched them to eat leaves on high trees, and so on. He says that:

"the efforts of some short-necked bird to catch fish without wetting himself have, with time and perseverance, given rise to all our herons and long-necked

waders" (translation T. H. Huxley).

T. H. Huxley remarked that

"it does not seem to have occurred to him to . . . ask how long an animal is likely to endeavour to gratify an impossible desire. The bird, in our example, would surely have renounced fish dinners before it had produced the least effect on leg or neck."

Lamarck supposed that the cause of the inheritance of acquired characters was an urge or need within the individual which was converted into an active fluid, flowing into such channels as were required to produce the desired effect, i.e., lengthening necks. This view is epitomized in the Biglow Papers of James Russell Lowell, purporting to be the "remarks of Increase D. O'Phace, Esq., at an extrumperty Caucus in State Street:

Some flossifiers think that a faculty's
granted

The minute it's proved to be thoroly
wanted,

That a change of demand makes a
change of condition,

An thet everything's nothin' except by
position;

Ez fer instance, that rubber trees fust
began bearin'

Wen p'ltickle conshunces come into
wearin',

Thet the fears of a monkey whose holt
chanced to fail,

Drawed the vertibry out to a prehensile
tail."

Most authors of the 19th century have emphasized the ridiculous excesses to which Lamarck's second law led him, but we must recognize what is at least sensible in it. He emphasized that the direct cause of variation lay, not in the environment, but in the nature of living things themselves, and that the environment acted to modify the naturally occurring evolution, which would continue to take place even in a perfectly constant milieu. To him, there were only two possible explanations of the fitness of organisms to their environments:

Either 1. "nature (or its author) in creating the animals, has foreseen all

the possible sorts of circumstances in which they would have to live and gave to each species a constant organization as well as a predetermined form . . . which forces each species to live in those places and climates where one finds them . . ." or 2. animals "distribute themselves generally in all the habitable regions of the globe, and each species has received, from the circumstances which it has met, the habits which we have observed, and the modifications of its body which observation has shown us."

Since, as Sainte-Beuve tells us, Lamarck possessed a "philosophical hostility amounting to hatred for the tradition of the Deluge, and the Biblical creation story, indeed for everything which recalled the Christian theory of nature," it is not surprising that he adopted the second viewpoint, which seemed to him the only alternative. It remained to the genius of Ch. Darwin to suggest yet another explanation of the exquisite adaptation of organisms to their environment.

III. Let us retrace our steps, in order to examine the philosophical climate in England during the Georgian period.

The profound reaction to the French Revolution made it extremely dangerous to express unorthodox views of any sort; one need but recall the circumstances surrounding the escape of Joseph Priestley to America. Nevertheless, certain individuals, such as the Scot, Lord Monboddo, were able to speculate publicly that man had used to go about on four legs, and that he was related to the orang-utan.

The first serious study of the species problem was the "Zoonomia" of Erasmus Darwin (1731-1802), the grandfather of Charles, whose book appeared in 1796, some 15 years before that of Lamarck and 60 before that of his grandson. This book enjoyed a wide circulation and provoked a reaction rather similar to that caused by the "Origin of Species". For example, Coleridge coined the term "darwinising", for wild speculation, and described the philosophy of the Zoonomia as the "State of Nature or the Orang Outang theology

of the human race, substituted for the first chapters of the Book of Genesis".

Erasmus Darwin proposed a "theory of generation or descent with modification," in which he asserted that species had undergone change both by an inheritance of acquired characters, and even by what one must recognize as a natural selection. For example, E. Darwin recognized what his grandson was to call sexual selection:

"The final cause of this contest among males seems to be, that the strongest and most active animal should propagate the species which should thus become improved."

Despite this, and many other advanced ideas, Charles Darwin refused to acknowledge any debt of inspiration from his grandfather. He described in his autobiography how one of his professors burst out in praise of Lamarck:

"I listened in silent astonishment, and as far as I can judge without any effect on my mind. I had previously read the *Zoonomia* of my grandfather, in which similar views are maintained, but without producing any effect on me. Nevertheless, it is probable that the hearing rather early in life such views maintained and praised may have favoured upholding them under a different form in my *Origin of Species*. At this time, I greatly admired the *Zoonomia*; but on reading it a second time after an interval of ten or fifteen years, I was much disappointed, the proportion of speculation being so large to the facts given."

Elsewhere, he dismissed his grandfather as merely having "anticipated the erroneous opinions of Lamarck".

In England, as in France, there was a strong reaction to the views of E. Darwin and Lamarck. James Pritchard, a physician, wrote in 1813 that

"all acquired conditions of the body end with the life of the individual in whom they are produced. But for this salutary law the universe would be filled with monstrous shapes."

Recently, Darlington, the cytologist, has called attention to the book of Wm. Law-

rence, FRS., MD., entitled "Lectures on Physiology, Zoology and the Natural History of Man," published in 1813. In this book, Lawrence stated that the differences between races of man were not caused by the direct action of food or climate, and that the human race could be improved by applying the same rules of selection as those used by animal breeders. Indeed he suggested that these rules be applied to redeem the corrupt and mentally deficient royal families and aristocracies of Europe. Darlington writes:

"His discussion of the orangutan theory of the origin of man was learned but intelligible, and it was relieved by vivid references to the buttocks of Hottentot women and what he called "the rites of Venus". The clergy read it, enjoyed it and denounced it. The laity read it and enjoyed it . . . The government's reaction was inevitable. The book was examined by the Lord Chancellor, who pronounced it contrary to Scripture and refused it copyright."

IV. In 1837, Charles Robert Darwin (1809-1882) commenced to assemble the data accumulated in his notebooks during the voyage of the *Beagle*. In 1838, he read the essay on population by the Rev. Mr. Malthus, and soon adopted the hypothesis that the agent which caused the origin of species from intra-specific varieties was natural selection. For twenty years he kept this theory to himself, occasionally letting some friends in on his thoughts. During this period, he tested his hypothesis by studying a wide variety of problems such as the biology of domesticated pigeons, of barnacles, of the origin of coral reefs.

We are all aware of the events which followed: the dramatic moment when he opened the letter from the young naturalist, Alfred Russell Wallace, then in Malaya, who independently had come to the same conclusions as Darwin and expressed them in much the same language. Darwin felt he could not, in conscience, publish his own findings, but his friends, the botanist Joseph Hooker and the geologist, Sir Charles Lyell, arranged for a

joint presentation of the Wallace-Darwin papers to the Linnaean Society on July 1, 1858, under the title: "On the tendency of species to form varieties; and on the perpetuation of varieties and species by natural means of selection".

In November, 1859, "The Origin of Species" appeared, and the whole world, led by Alfred Russell Wallace, identified the doctrine of evolution by means of natural selection as Darwinism.

The essence of Darwinism is, in the words of its founder:

"Complex organs and instincts have been perfected . . . by the accumulation of innumerable slight variations, each good for the individual."

This follows from 3 simple propositions, for which he adduced much evidence:

"That gradations in the perfection of any organ or instinct either do now exist or could have existed, each good of its kind. That all organs or instincts are, in ever so slight a degree, variable.

And lastly, that there is a struggle for existence leading to the preservation of each profitable deviation of structure or instinct."

Natural selection ought thus to be called natural rejection, since it acts by eliminating the less well adapted, and ensuring only indirectly what Spencer called "the survival of the fittest."

Here we see clearly stated an explanation of adaptation, or fitness, quite opposed to the views of Lamarck. The major dialectic, to which I have alluded, is the conflict in opinion concerning the role of the environment in origin of species—the lamarckian view holding that changes in the environment act to cause adaptive heritable modifications in the individual, (as we know it produces physiological changes,) and the darwinian, that the environment acts principally to kill off poorly adapted forms in the struggle for existence, thus favoring all of the slight variations of unknown origin which lead to greater fitness. Darwin made no attempt to explain the nature of these hereditary variations.

Let me illustrate the critical distinction

between these hypotheses with an example. Why are blind fish found only in caves to which light never penetrates? According to Lamarck, disuse of the eyes would produce a hereditary atrophy, as in fact it does a physiological atrophy; according to Darwin, a spontaneous variation with optic degeneration could survive only in an environment in which this would be no handicap in the struggle for existence. Or, to put it in the words used by a student of mine in an examination, some years ago, "As these fish leave the cave, they are killed off by the Darwinian theory of natural selection."

Actually, in 1858, Darwin had not totally rejected the possibility of the inheritance of acquired characters, and in his 1858 paper he mentions, in passing, the possibility that "changes in external conditions" may cause heritable variation. Yet by 1859, in the *Origin*, he was becoming quite lamarckian:

"Disuse, aided sometimes by natural selection, will often tend to reduce an organ, when it has become useless by changed habits or under changed conditions of life."

And by 1871, when he published his "Descent of Man", he had evolved his elaborate theory of pangenesis in order to account for the inheritance of acquired characters upon which he became increasingly reliant. Our dialectical struggle can thus take place within the ideas of a single man.

Why did Darwin become increasingly lamarckian, rather than rely on environmental selection of naturally occurring variation? Darlington has pointed out that Darwin was forced into this position owing to the very imperfect notions of heredity prevailing in the 19th century when it was believed that the hereditary determinants were fluids carried in the blood, and that in any individual, the paternal and maternal characters were blended, or fused into an intermediate type. (It was not until the dawn of the 20th century that this wholly erroneous notion was dispelled.) For opponents of Darwin were not slow to point out that

if hereditary differences blended on crossing, then any favorable variation would diminish in magnitude with every succeeding generation, and would eventually disappear entirely, rather than be selected by nature as Darwin supposed. It thus became essential for Darwin, in order to retain his basic idea of natural selection, to accept as well the Lamarckian idea of direct intervention of the environment to cause the variation in the first place, and to magnify it in succeeding generations as natural selection operated in its favour.

V. What reception greeted the theory of evolution of species by means of natural selection? In his annual report, Thomas Bell, the President of the Linnaean Society, was constrained to report that 1858 had

"not been marked by any of those striking discoveries which at once revolutionize, so to speak, the department of science on which they bear."

Rarely can a man have been so wrong. Hooker describes the scene in the room of the Linnaean Society in these words: "the interest excited was intense, but the subject was too novel and too ominous for the old school to enter the lists before armouring."

Alfred Newton, who was to become Professor of Comparative Anatomy at Cambridge, describes the immediate and overpowering reaction which the joint Wallace-Darwin paper had on him:

"Not many days after my return home (from Iceland), there reached me the part of the journal of the Linnaean Society which bears on its cover the date 20th August, 1858, and contains the paper of Mr. Darwin and Mr. Wallace . . . I sat up late that night to read it; and never shall I forget the impression it made on me. Herein was contained a perfectly simple solution of all the difficulties which had been troubling me for months past. I hardly knew whether I at first felt more vexed at the solution not having occurred to me than pleased that it had been found at all. However, after reading these

papers more than once, I went to bed satisfied that a solution had been found. All personal feeling apart, it came to me like the direct revelation of a higher power; and I awoke next morning with the consciousness that there was an end of the mystery in the simple phrase 'Natural Selection'."

The reaction of Thomas Henry Huxley, who described himself as Darwin's bulldog for reasons which will soon become apparent, was that the effect of the Darwinian theory was as a flash of lightning in the dark.

"We wanted, not to pin our faith to that or any other speculation, but to get hold of clear and definite conceptions, which could be brought face to face with facts and have their validity tested. The Origin provided us with the working hypothesis we sought. Moreover, it did the immense service of freeing us forever from the dilemma — Refuse to accept the Creation hypothesis, and what have you to propose that can be accepted by the cautious reasoner? In 1857, I had no answer ready, and I do not think that anyone else had. A year later, we reproached ourselves with dullness for being perplexed with such an enquiry. My reflection when I first made myself master of the central idea of the Origin, was, 'How extremely stupid not to have thought of that!'"

In other countries, especially Germany, powerful scientific support came to Darwin; one thinks especially of Haeckel in this connection.

However, opposition was not long in coming, both from lay and clerical, and from scientific sources. In April, 1860, Huxley wrote in the *Westminster Review* that

"Everybody has read Mr. Darwin's book, or at least, has given an opinion upon its merits and demerits; pietists, whether lay or ecclesiastic, decry it with the mild railing which sounds so charitable; bigots denounce it with ignorant invective; old ladies of both

sexes consider it a decidedly dangerous book . . ."

In the summer of 1860, the British Association for the Advancement of Science met at Oxford, and there occurred the famous clash between Huxley and the Anglican Bishop of Oxford, Samuel Wilberforce. The latter had received a first in the Oxford Mathematical Schools in his youth, and was considered to be in the same forensic class as the redoubtable Huxley who never retreated from a good argument. Bishop Wilberforce thundered:

"The principle of natural selection is absolutely incompatible with the word of God."

Terminating his speech, he turned to Huxley and said:

"In conclusion, I should like to ask my honorable opponent whether he considers himself descended from an ape on his grandmother's side or his grandfather's?"

Let us allow Darwin's bulldog to relate what then happened, in his own words:

"When I got up, I spoke pretty much to the effect—that I had listened with great attention to the Lord Bishop's speech, but had been unable to discover either a new fact or a new argument in it—except indeed the question raised as to my personal predilections in the matter of ancestry—That it would not have occurred to me to bring forward such a topic as that for discussion myself, but that I was quite ready to meet the Right Rev. prelate even on that ground. If then, said I, the question is put to me would I rather have a miserable ape for a grandfather or a man endowed by nature and possessing great means and influence who employs those faculties and that influence for the mere purpose of introducing ridicule into a grave scientific discussion—I unhesitatingly affirm my preference for the ape."

Needless to say this was the end of his episcopal opponent.

Other bishops rose to take his place in succeeding years, and all were duly mowed down by the biting tongue or pen of this scientific swordsman, who richly

deserved his self-created epithet of "Huxley episcopophagous" (bishop-eater).

The opposition of the clergy soon abated; and indeed, they soon found support for their ecclesiastical views in darwinism. For example, Bishop Temple stated

"It seems more majestic, more fitting of Him to whom a thousand years are as one day, thus to impress His will once for all on His creation, and provide for all its countless varieties by this one original impress, than by special acts of creation, to be perpetually modifying what He had previously made."

Thus, the minor dialectic, the struggle between evolutionists on the one hand and apostles of various types of orthodoxy on the other (one thinks of Cardinal Manning, Carlyle, Gladstone, Disraeli, etc.) died slowly away, for the moment.

There was serious scientific opposition throughout the balance of the 19th century, led by men such as Virchow, Kolliker, Louis Aggasiz. This opposition became increasingly sporadic, and it seems fair to say that by the beginning of the 20th century no serious opposition to darwinism was left, this term being used in its wider sense to include the lamarckian component. Evolution is now accepted as a fact, not an hypothesis.

VI. In describing the history, and resolution, of our major dialectic, I must now describe the rise to a dominant position of one of these two conflicting ideas, that of the original darwinian theory of the environment acting by selecting variations which were fit, rather than by inducing direct, hereditary adaptations. This movement has been given the name of neo-Darwinism; its leader was August Weissman, Professor at Freiburg in the last quarter of the 19th century, and well into the 20th.

Weissman had predicted on theoretical grounds that the material basis of heredity, the determinants, would be associated with specific cell structures whose number diminished by one-half in the sex cells, in order that their number not be doubled with each succeeding generation. When cytological studies established that the

chromosomes in fact did become reduced to one-half the usual number in the sex cells, he enunciated the chromosome theory of inheritance in specific form, namely that the determinants were associated with these cell elements. He evolved the rather mystical notion of the germ plasm, (based on faulty observation of gametogenesis in the hydrozoa), in which it was alleged that the hereditary germinal plasm is somehow distinct from the somatoplasm, in that the former is potentially immortal, whilst the latter dies at each generation. While this proposition is either meaningless or incorrect, it nonetheless led him to reject the notion that acquired characters (changes in the body or somatoplasm), could be inherited (lead to changes in the germ plasm, which he imagined to live in a jim crow section in rigid apartheid).

It is well known that he performed many experiments, such as cutting off the tails of numerous generations of mice, to see if this acquired character could be inherited, as Lamarck might have anticipated it would. Naturally, it was not inherited. Much the same experiment has, in fact, been going on for some three thousand years, in the ritual circumcision of male Jews shortly after birth. I am informed on reliable authority that the operation is no less necessary today than it was in biblical times, and that Jewish foreskins have shown no noticeable tendency to shorten with the passing centuries. Beyond doubt, it was to this natural experiment that Mr. Shakespeare was alluding when he had Hamlet say (Act 5, Scene 2):

"There's a divinity that shapes our ends,
Rough-hew them how we will."

The triumph of neo-Darwinism was

thought to be complete with the rise of the science of Genetics, beginning in 1900 with the rediscovery of the work of Gregor Mendel, the Abbott of Brunn, and continuing with the theory of the gene, elaborated mainly in the laboratories of Thomas Hunt Morgan at Columbia University, and further developed by Dobzhansky and others.

Briefly, evolution is now seen as a change in the frequency of certain genes within the population. When a sufficiently different complement of genes is present, the new variety has become reproductively isolated from its parent stock, i.e., hybrids are infertile (like the mule), and a new species has been created. New genes arise continually by abrupt changes, or mutations.

The environment thus has a double role of extreme importance: 1. it determines to a large extent the expression of genic activity. For example, Muller, Little and Snyder state:

"A given gene, however, is never to be thought of as literally being a gene for this or that character, but only as a gene with given possibilities of reaction, affording the potentialities for the development of certain characters provided external conditions as well as the assemblage of other genes present with it are suitable."

The gene thus determines the range of possible expression, and within this range the environment may determine the degree of expression of a particular gene.

2. The environment acts in evolution as the agent of natural selection, eliminating those combinations of genes least fit to survive.

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The concluding part of this paper will appear in the April issue of the Journal of the Canadian Dental Association.

EDITOR

The Lecture, Lecturers and the Lectured

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INTRODUCTION

The university lecture as a method of teaching is frequently criticized by students and lecturers alike, but for different reasons. The lecturer feels he cannot teach anything to a large number of people all at the same time. This is probably because many university lecturers do not know what the purpose of a lecture is. Students, likewise, not realizing the object of a lecture, feel they are a waste of time. This is probably due to the fact that they do not know how to listen to one.

Therefore, it is intended to discuss briefly the three main facets of a lecture so the part that each plays may be more clearly understood and appreciated.

First then, what is a lecture? Secondly, what part does the lecturer play in this and how best can it be achieved? Thirdly, the audience. How do you listen to a lecture? What should you get out of a lecture?

THE LECTURE

Before one either gives a lecture or listens to a lecture, one must be quite clear as to what constitutes a university lecture.

A lecture is the only means the undergraduate has of seeing and hearing a man deeply versed in his own subject collect, sort and digest knowledge, clarify his own mind, then present his findings to his students. From out of the vast literature of textbooks and journals, as well as from his own research and clinical or laboratory experience, a lecturer has to draw together in a logical and meaningful form, the principles of his subject. In dentistry, it is often difficult to lay down principles, in many cases it is impossible, because of all the biological sciences, dentistry must be one of the most empirical.

A lecture is not just a means of one person instructing another about the molecular structure of carbon, multiplied by twenty or a hundred; nor is it a travel talk by dimming the lights and projecting a multitude of slides usually, but not always, related; nor is it a sales blurb, and one can sell anything from soap flakes to a new technique for taking impressions. In fact, in most instances, a lecture is considered one of the means of achieving the above. If we, at a university, imagine that this is lecturing, then we are deceiving ourselves and our audience. A university lecture has a much wider and more subtle objective than purely imparting facts. This can be done better in most instances by a good film or a T.V. show.

However, by thinking aloud, the audience can see and hear and feel the lecturer's deep enthusiasm for his subject

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and how he tries to keep abreast of his subject. Enthusiasm is contagious. If the lecturer can get away from the dry facts of his subject he can, from his knowledge and experience, make it live. If it is alive for him, then he'll arouse a response in the audience, who may not remember a word that was said but they have been stimulated to find out, by reading the literature, why it should be alive for the lecturer. If this happens, then the student has a desire to find out for himself and inevitably learns something about the subject under discussion.

There is a trend in teaching at present to try and introduce the undergraduate student to laboratory research and expose him to the methods that are used. Since research is the search for truth, each and every lecture is a living, talking, example of how a man searches for the truth, how he tests it in his own mind, before even considering an experiment and then how one can plan and produce an experiment to test one's thoughts. That is, in fact, what a lecturer should do, and most outstanding lecturers make this type of experience a living, enjoyable and stimulating period. So daily and weekly throughout the course the student is being constantly exposed at the lecture to the basic elements of research.

Facts can be obtained from textbooks, but the personal interpretation and correlation of these facts with the lecturer's subject and allied ones, can only be given in lecture form. The audience can listen to a man skilled in his own subject thinking aloud, presenting arguments for and against the facts and how they can be used for a deeper appreciation of the subject under discussion.

Each and every lecture in a course should be a complete entity in itself. Just as a symphony may have three movements, so should a lecture—an introduction, then discussion and elaboration of the theme, followed by a conclusion when the theme is recapitulated and the results drawn together in a final form. Just as it is possible to play two movements of a

symphony one week, and the third movement a week later, but no musician would dream of doing this, yet lectures are often left in mid-air at the end of the allotted time and the lecturer murmurs, "I'll wind this up next week." This ruins the lecture, just as much as it ruins a symphony. So a lecture must be a completed unit, with a theme running the whole way through linking together the thoughts and ideas that are being discussed by the lecturer. It is the finding of this theme which is often the most difficult part of the preparation of the lecture and there is no simple rule on how to find it except that one must sit and think very carefully on the lecture before it is finally constructed.

Although it is easier to say what a lecture should not be, it is more difficult to say what it should be. However, if it is agreed that it is a means of generating interest in a subject, as well as giving the student some idea of how the lecturer views particular aspects and how they fit into the broad picture of knowledge, then I would maintain this is a university lecture.

THE LECTURER

The lecturer must obviously play the principal role in this form of teaching, and just as we are all different, so there is no one way to give a lecture. Lecturers are usually chosen by universities for their scholarship, their knowledge of a particular subject and their ability to do research. The ability to convey their knowledge to undergraduates is not often considered to be of prime importance by university authorities. With this in mind, one can appreciate the man for his academic standing rather than his ability as a lecturer. Nevertheless, more and more university lecturers realize that they have this deficiency in communication with their students and are trying to improve the standard of their lectures.

Planning and preparation is an absolute

prerequisite for a good lecture. This seems so fundamental that it is surprising how many men believe that because they have the knowledge, all they have to do is to fill in the necessary time burbling garrulously, but ineffectually before an undergraduate audience. A lecture must be prepared; preferably so perfectly prepared that the lecturer can pursue his train of reasoning from the beginning to the end, without any notes, and yet be logical, clear cut and get across the cardinal points he is trying to make. Most of us have not reached this stage, but need notes or headings to keep us on the right track. This is perfectly justifiable, but to write a lecture out in longhand and read a prepared statement is unforgivable, except where one is delivering some highly difficult research problem to a very select audience of scientific minds. But this is a different problem and not to be confused with the undergraduate lecture.

Besides preparation, one must remember that there is a very close relationship between the lecturer and his audience. Anyone who has given a lecture to the same audience with as many factors as constant as possible, knows the inexplicable feeling of deadness that sometimes prevails over the audience and the lecturer. On other occasions there is an aliveness and alertness on all present, which differs radically from the other situation. The latter is obviously the better situation and the one to strive after, and it is often impossible to say what went wrong in the first situation.

This relationship between lecturer and students raises the point of the lecturer projecting his personality. Without going into details it would seem legitimate for the lecturer to look upon a lecture as an actor would upon playing a part in a stage production. It is not enough for the actor to know his lines, his entrances and exits, he must know the whole play and live the part. This demands not only preparation and planning, but a physical and mental effort to project his own personality into the part and become the character he is playing. It is not necessary to draw too

many parallels, as many lecturers would disagree that their lecture should in any way be a performance. This is not what is meant. But if one is going to keep an audience at one's fingertips for nearly an hour, one must learn to use every trick of the actors' trade to keep the subject alive and interesting, without departing from the true reason for a lecture. Some of the best lecturers I have known have admitted to a mental and physical exhaustion at the end of a lecture. They have put everything they had into their subject and at the end they have felt something of the anticlimax an actor must feel at the end of each performance. This feel for an audience's reaction is a very real, active thing. It is difficult to describe in words, but the lecturer must know by watching the faces of the audience whether they are with him or whether he has lost them in some intricate argument. It is also known that an audience's interest rises and falls during certain time intervals and no audience can concentrate with all their minds all the time. If a lecturer has this feel for the audience's reaction he can spot this diminution of interest before it becomes too widespread. It is then time to pause, restate the problem, tell a joke, show some slides, anything to change the tempo of the lecture. Not every man will use the same method, and everyone must find their own way of pausing and allowing the audience to take a mental breath.

One point a lecturer should remember. It is doubtful if many students will retain very much of the content of a lecture. It is likely that in a short space of time many of the pearls of wisdom, which have been so carefully prepared will have gone completely from the student's mind. This does not matter, particularly if the student has been stimulated to think and read for himself.

The lecturer must then not only know his own subject thoroughly and be cognizant of recent work in his own field and how it can be interpreted, but he must be aware of how his subject relates to others in the curriculum. Besides this, he

must cultivate his own methods for infusing interest and enthusiasm from the students. Remember facts can be obtained from good textbooks and articles, but it is the interpretation of these in the light of wide reading and research that the lecturer can give the student, which is not obtainable from any book or article.

If the undergraduate audience has read what a lecture should be and the part a lecturer plays in this teaching process, then it must by now be clear that there is an art in listening to a lecture. The sudden break from school where teaching is done in a very steady and stereotyped way, to the university where nobody cares if you attend or listen to a lecture, comes as a very rough jolt to most of us. This apparent complete indifference of the university staff to whether you take any notice of what is being said raises a hostile feeling in many students. The immediate reaction is often, "He's a bad lecturer," "He goes too fast," "He talks about everything except his own subject." Most university lecturers would agree that the change from school to university is a big hurdle, but it is a hurdle the student must learn to jump himself. No student has to go to a university, whilst in most countries now there is a recognized school leaving age so that you have no choice in the matter. Going to university is a privilege, only a few in the community have, and it is up to the individual to make the most of this opportunity. Therefore, the undergraduate student must realize that he is privileged to hear men, expert in their own subjects, often recognized world-wide for their research work, lecturing to them on the subject the lecturer loves so much and knows most about. So sit and listen.

The habit of the majority undergraduate students of trying to take every word one says down on paper is to be deplored. By doing this they miss the whole essence of a lecture. Rather they should jot down the principal headings, or a quick sketch, or any other suitable means of helping them later to recall the outline of the argument and the principles the lecturer was propounding. This will then enable them to

turn to the literature and build up their notes into the form of a book. Their own book, which suits their purpose and nobody else's. How often have you borrowed somebody else's notes and found them quite useless. These are a very personal and individual method of putting the subject together as you understand it, nobody else.

By listening carefully to the lecturer propound an argument with concise words and a scientific mind, the student can read with a better understanding and from this combination of listening and reading he can then put on paper his conception of the subject. Thus will he learn to understand and know the subject and this triple action of listening, reading and then writing will aid in the learning process.

So don't condemn the lecturer or the lecture because you couldn't take detailed notes, or obtain nicely tabulated juicy facts that can be regurgitated at an examiner. This is not what he is trying to do. He is trying to stimulate in you an appreciation of the subject so that you will find out and understand the facts and how they are related to other branches of knowledge.

CONCLUSION

It would seem reasonable to consider that unless both the undergraduate student and the lecturer know what a lecture is, what it is meant to do and how to listen to one that there will be many frustrating experiences. Nevertheless, these would be fewer in number if both parties realized and recognized the vital difference of an undergraduate lecture from other teaching processes. The university teacher then, to minimize the number of frustrating experiences, both for himself and his audience must ask himself, "Can this be taught or given to the student better in any other medium or method?" If the answer is "Yes," then don't decry the lecture as a means of teaching, it's just that the wrong tool is being used for the wrong job.

Similarly with undergraduate students.

Don't deplore all lectures just because a few are bad. All have something to give, it is up to you to find out what it is. Granted some people make it easier than others, but that still doesn't deny the fact that the lecture, used in the right context, by a man who knows how to use it, is still one of the finest experiences an undergraduate student can have.

ACKNOWLEDGEMENTS

The views presented here are purely personal ones and are not to be inter-

preted as those either of the University of Manitoba or the Faculty of Dentistry. These are not original thoughts or views. But the author has had the opportunity to listen to many men who are masters in this difficult art, and besides listening they have given their time to discuss the problems of lecturing. To all these men, the author is eternally grateful for the time and willingness they have shown in trying to teach an amateur the most difficult but rewarding art of lecturing.

University of Manitoba.

The Brantford-Sarnia-Stratford Fluoridation Caries Study — 1959 Report

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INTRODUCTION

On June 20th, 1959, Brantford, Ontario had completed fourteen years of successful experience with a mechanically fluoridated water supply. This report is designed to present an analysis and a comparison of the caries data from the first survey in 1948, and the latest survey, 1959.

PURPOSE

Previous to the fluoridation of the Brantford water supply, a great deal of information had been obtained from various parts of the world concerning the effect of naturally fluoridated water on dental caries. This information showed that the consumption of water containing 1 to 1.5 parts per million of fluoride great-

ly reduced the incidence of tooth decay and was completely safe. In the light of the above, it was decided to find out whether the incidence of tooth decay could be reduced by the controlled adjustment of the fluoride content of a previously fluoride-deficient water supply to about one part per million by the mechanical addition of sodium fluoride.

HISTORY

In 1945, Brantford began to fluoridate its water supply, and has done so continuously since that time. Brantford was one of the first three cities in the world to undertake the mechanical adjustment of the fluoride content of its water supply. The initiation of this major public health development was largely due to the efforts of the former Medical Officer of Health of Brant County, the late Doctor W. L. Hutton.

In 1946 the Department of National Health and Welfare was invited to undertake a study of the dental effects by a periodic comparison of the caries prevalence of Brantford children with that of children living in a city having a naturally fluoridated water supply (Stratford) and also with that of a city having a negligible amount of fluoride in its water supply (Sarnia).

The Dental Health Division of the Department of National Health and Welfare has conducted this study, with the assistance of the Research and Statistics Division of the Department, and with the co-operation of the Ontario Department of Health and the local departments of health of Brant County, of Stratford and of Lambton (Sarnia).

SELECTION OF STUDY SAMPLES

Within the age groups 9-11 and 12-14 years, the total of children in each city who are eligible for inclusion in the study is determined on the basis of 'continuous' residence, where 'continuous' residence is defined as including absences, since birth,

of six weeks or less. Thus the study compares a group of children (Brantford) who have used a mechanically fluoridated water supply continuously since June 1945, and who before that date did not use fluoridated water, with a group (Sarnia) who continuously since birth have not used fluoridated water, and a second group (Stratford) who have used continuously since birth water fluoridated from underground deposits of fluoride. For the individual children, residence eligibility is determined from information supplied by the parents. All schools of each city are canvassed, secondary as well as primary. Children 6-8 years of age were examined up until 1957; but since 1954 no significant differences were found to exist in the caries experience between the children of Brantford and the children of Stratford in this age group (1, 2). It was therefore decided that no useful purpose would be served by continuing to examine children of this age and only the 9-11 and 12-14 age groups were included in the study after 1957.

On the basis of available caries incidence data, it was decided, that for purposes of statistical adequacy, at least 500 children in each age group in each city should be examined. Where the total number of eligible children in any age group warranted it, the study sample was drawn out by a process of random sampling in the manner prescribed in "A Suggested Methodology for Fluoridation Surveys in Canada" (3). Table 1 shows for the years 1948 and 1959 the totals of eligible children, the numbers chosen for examination and the numbers actually examined.

METHOD OF EXAMINING AND RECORDING

With a view to maintaining as uniform a scale of observation as possible throughout the study, all examinations have been done by the same examiner, using a portable examining light of specific intensity kept at a constant distance, plane mouth mirrors and No. 5 Clev-dent explorers. The lowest limit in size for a caries lesion

TABLE 1
TOTAL CHILDREN ELIGIBLE AND TOTAL EXAMINED, 9-11 AND 12-14
AGE GROUPS

Brantford, Sarnia and Stratford, 1948 and 1959

1948	Age Group	Sarnia	Brantford	Stratford
Total Eligible	9-11	580	816	434
No. Chosen for Exam.		*	602	*
No. Examined		571	595	432
Total Eligible	12-14	495	747	376
No. Chosen for Exam.		*	600	*
No. Examined		486	593	371
1959				
Total Eligible	9-11	801	1202	754
No. Chosen for Exam.		534	534	539
No. Examined		521	502	527
Total Eligible	12-14	780	962	497
No. Chosen for Exam.		520	535	*
No. Examined		485	503	480

* No sampling performed.

Census population, 1951: Brantford, 36,727; Sarnia, 34,697; Stratford, 18,785. Sarnia survey area includes Point Edward which is served by the Sarnia water supply, but not other outlying areas annexed in 1953.

was defined as one in which the point of the explorer would stick and resist direct withdrawal, or in which softness could be felt. Hard discoloured enamel surfaces and enamel imperfections were not recorded as caries. Any observable mottling was recorded. Oral hygiene was also recorded and classified as 'good', 'fair', or 'poor'.

A chart depicting all the coronal surfaces of both permanent and primary teeth was used for recording. Although this report presents data only for DMF (decayed, missing and filled) permanent teeth and df (decayed and filled) primary teeth, tooth decay was recorded in the detail necessary for analysis by the number of surfaces affected. In addition every tooth space was accounted for in order that later analysis might be made in terms of a DMF tooth record of all erupted teeth per child.

FINDINGS

This report summarizes the results of

the 1959 dental examinations at Brantford, Stratford and Sarnia and also shows the extent of change in caries prevalence which has taken place in Brantford between 1948 and 1959.

As in earlier reports, the data from the 1948 and the 1959 surveys are presented in respect to (1) all permanent teeth, (2) first permanent molars, (3) permanent upper incisors, and (4) primary teeth. The indices used to measure caries-prevalence are (a) percentage of children having caries-free teeth, (b) tooth mortality rate, (c) mean DMF permanent teeth and (d) mean df primary teeth.

These findings compare the extent of caries prevalence among children of Brantford, where since 1945 the fluoride content of the water supply has been adjusted to about 1 ppm, with the caries prevalence of children of Stratford, a naturally fluoridated control city (1.6 ppm), and similarly with the caries prevalence of children of Sarnia, a fluoride-deficient control city.

TABLE 2

PERCENTAGE OF CHILDREN HAVING CARIES-FREE PERMANENT TEETH

Age Group	Year	Percentage of Children having Caries-free Permanent Teeth and Standard Error of Percentage		
		Sarnia	Brantford	Stratford
9-11	1948	6.13 $\pm$ 1.001	5.71 $\pm$ 0.950	52.08 $\pm$ 2.404
	1959	8.06 $\pm$ 1.192	43.82 $\pm$ 2.214	49.91 $\pm$ 2.178
12-14	1948	0.62 $\pm$ 0.350	1.18 $\pm$ 0.447	27.22 $\pm$ 2.310
	1959	2.27 $\pm$ 0.676	18.69 $\pm$ 1.738	28.12 $\pm$ 2.052

Age Group	Differences in Percentage of Children having Caries-free Permanent Teeth						
	Inter-City			Inter-Year			
	Year	Sarnia Brantford	Brantford Stratford	Years	Sarnia	Brantford	Stratford
9-11	1948	—0.42 NS	46.37 SS	1948-59	1.93 NS	38.11 SS	—2.17 NS
	1959	35.76 SS	6.09 NS				
12-14	1948	0.56 NS	26.04 SS	1948-59	1.65 S	17.51 SS	0.90 NS
	1959	16.42 SS	9.43 SS				

For levels of statistical significance, and discussion of standard error, see page 142.

Percentage of Children Having Caries-Free Permanent Teeth

The percentage of children in Brantford, Stratford and Sarnia having caries-free permanent teeth in 1948 and in 1959 are shown in Table 2 and Fig. 1.

Between 1948 and 1959, Brantford children have shown a highly significant increase in the percentage of caries-free permanent teeth in the two age groups studied. Among Stratford children no significant differences in this respect were observed between 1948 and 1959, while in Sarnia the data shows no significant differences in the 9-11 age group, but indicates an increase of borderline significance in the percentage of caries-free teeth in the 12-14 age group. In 1948 the percentages of children in Brantford and Sarnia who were caries-free were of the same order of magnitude. However, at that time, significantly lower percentages of caries-free children were found in Brant-

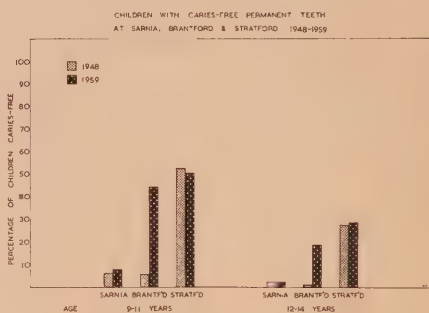


FIGURE 1

TABLE 3

MEAN TOOTH MORTALITY (MISSING AND IRREPARABLE) PERMANENT TEETH PER 100 CHILDREN

Age Group	Year	Mean Tooth Mortality (Missing and Irreparable Permanent Teeth) per 100 Children and Standard Error of Mean		
		Sarnia	Brantford	Stratford
9-11	1948	51.31 $\pm$ 4.348	28.91 $\pm$ 3.016	5.09 $\pm$ 1.445
	1959	36.47 $\pm$ 4.028	9.96 $\pm$ 1.961	10.06 $\pm$ 1.736
12-14	1948	137.24 $\pm$ 7.985	84.32 $\pm$ 5.602	18.87 $\pm$ 2.911
	1959	75.05 $\pm$ 5.902	22.27 $\pm$ 3.012	22.50 $\pm$ 2.966

Age Group	Differences in Mean Tooth Mortality (Missing and Irreparable Permanent Teeth) per 100 children						
	Inter-City			Inter-Year			
	Year	Sarnia Brantford	Brantford Stratford	Years	Sarnia	Brantford	Stratford
9-11	1948	-22.40 SS	-23.82 SS	1948-59	-14.84 S	-18.95 SS	4.97 S
	1959	-26.51 SS	0.10 NS				
12-14	1948	-52.92 SS	-65.45 SS	1948-59	-62.19 SS	-62.05 SS	3.63 NS
	1959	-52.78 SS	0.23 NS				

For levels of statistical significance, and discussion of standard error, see page 142.

ford in comparison with Stratford children at all ages studied.

The significant increases in the percentages of caries-free children in Brantford, as compared with Sarnia were first observed in 1951, and have increased in magnitude, in favour of the Brantford children, since then. The magnitude of the 1959 Brantford-Stratford differences has decreased substantially since 1948 in the case of the 12-14 age group, although still in favour of Stratford children, while in the 9-11 age group no significant differences were observed between the Brantford and Stratford children in 1959.

Mean Tooth Mortality

Tooth loss, in the absence of timely dental care, is the end-result of dental caries. Table 3 summarizes the findings, in this regard, among children in Brantford, Stratford and Sarnia between 1948

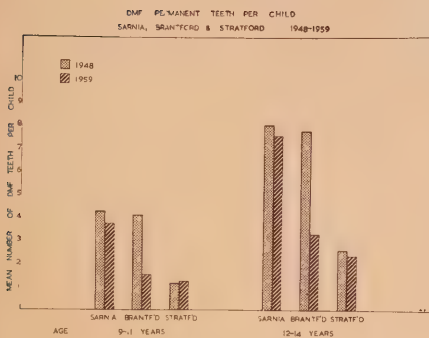


FIGURE 2

TABLE 4

MEAN DMF (DECAYED, MISSING, FILLED) PERMANENT TEETH PER CHILD

Age Group	Year	Mean DMF Permanent Teeth per Child and Standard Error of Mean					
		Sarnia	Brantford	Stratford			
9-11	1948	4.21 ± 0.114	4.07 ± 0.093	1.13 ± 0.072			
	1959	3.68 ± 0.103	1.52 ± 0.075	1.22 ± 0.066			
12-14	1948	7.94 ± 0.200	7.68 ± 0.164	2.55 ± 0.130			
	1959	7.46 ± 0.197	3.23 ± 0.127	2.33 ± 0.103			
Age Group	Differences in Mean DMF Permanent Teeth Per Child						
	Inter-City			Inter-Year			
	Year	Brantford Sarnia	Stratford Brantford	Years	Sarnia	Brantford	Stratford
9-11	1948	−0.14 NS	−2.94 SS	1948-59	−0.53 SS	−2.55 SS	0.09 NS
	1959	−2.16 SS	−0.30 SS				
12-14	1948	−0.26 NS	−5.13 SS	1948-59	−0.48 NS	−4.45 SS	−0.22 NS
	1959	−4.23 SS	−0.90 SS				

For levels of statistical significance, and discussion of standard error, see page 142.

and 1959. There is a direct correlation between tooth mortality rates, i.e., the numbers of teeth extracted and/or indicated for extraction per 100 children, and caries prevalence rates, in terms of the numbers of teeth attacked by caries per 100 children. Any measure, therefore, which operates to reduce the occurrence of dental caries among children should be reflected in lower tooth mortality.

Tooth mortality among Brantford children in 1948 (following three years' use of a fluoridated water supply) was significantly lower at the ages studied than it was among Sarnia children. However, the prevalence of dental caries among Brantford and Sarnia children was still of the same order. It was found that a much more favourable ratio existed between treated and untreated carious defects in Brantford children than was observed among Sarnia children; this factor being considered primarily responsible for the more favourable tooth mortality rates in Brantford.

In 1948 the prevalence of dental caries among Brantford children was approximately four times greater than that of

Stratford children. Also, at that time, the tooth mortality rate among Brantford children aged 9-11 years, and 12-14 years, was significantly higher than children of these ages at Stratford.

By 1959, tooth mortality in Brantford had significantly decreased among the age groups examined when compared with 1948 levels. A decrease in this regard also occurred among Sarnia children during the same time interval; while in the case of Stratford children, little change was noted, save for an increase of borderline significance in tooth mortality in the 9-11 age group.

Inter-city differences indicate that a highly significant decrease in tooth mortality has occurred in Brantford children in the age groups examined since 1948, the results for 1959 showing no significant differences in this characteristic between Brantford and Stratford children.

Mean DMF Permanent Teeth

The dental caries attack rate experienced by children in Brantford, Stratford and Sarnia in 1948 and 1959 is shown in Figure II and in Table 4. The data are

TABLE 5

PERCENTAGE OF CHILDREN HAVING CARIES-FREE FIRST PERMANENT MOLARS

Age Group	Year	Percentage of Children Having Caries-free First Permanent Molars and Standard Error of Percentage					
		Sarnia		Brantford		Stratford	
9-11	1948	6.65 ± 1.046		6.22 ± 0.989		52.31 ± 2.403	
	1959	8.64 ± 1.231		44.42 ± 2.218		50.66 ± 2.178	
12-14	1948	1.03 ± 0.451		2.02 ± 0.575		33.69 ± 2.454	
	1959	3.30 ± 0.811		20.68 ± 1.806		30.42 ± 2.100	
Age Group	Differences in Percentage of Children Having Caries-free First Permanent Molars						
	Inter-City			Inter-Year			
	Year	Sarnia Brantford	Brantford Stratford	Years	Sarnia	Brantford	Stratford
9-11	1948	-0.43 NS	46.09 SS	1948-59	1.99 NS	38.20 SS	-1.65 NS
	1959	35.78 SS	6.24 S				
12-14	1948	0.99 NS	31.67 SS	1948-59	2.27 S	18.66 SS	-3.27 NS
	1959	17.38 SS	9.74 SS				

For levels of statistical significance, and discussion of standard error, see page 142.

expressed in terms of the mean numbers of decayed, missing and filled permanent teeth per child.

In 1948, the caries attack rates were found to be of the same order between Brantford and Sarnia children in the 9-11 and 12-14 age groups, while markedly significant differences were observed in favour of Stratford children in these same age groups.

Between 1948 and 1959 a marked and significant reduction occurred in the dental caries attack rate among Brantford children at the ages studied. For Stratford and Sarnia, inter-year differences show that the caries attack rates were at about the same levels in 1959 as they were in 1948 except for a significant decrease in this respect for the 9-11 age group in Sarnia.

Comparison of the inter-city differences between Brantford and Sarnia shows a marked decrease in caries attack rates between 1948 and 1959 in favour of Brantford children. The Brantford-Stratford differences in this respect continue to be in favour of the Stratford children in the

age groups under study. However, although these differences are significant, they were considerably smaller in 1959 than in 1948.

First Permanent Molars

The first permanent molars are the most caries-susceptible teeth of the permanent dentition. Among children of the age groups included in this study, decay of these teeth constitutes the largest proportion of the total caries experience in the permanent dentition, and therefore, the findings with respect to these teeth are presented separately for 1948 and 1959 in Tables 5 and 6.

Between 1948 and 1959 there was a marked and significant increase in the percentage of Brantford children in the age groups under study having caries-free first permanent molars. There was a corresponding decrease in the caries attack rates with respect to these teeth. In the case of Stratford children, the caries experience of first permanent molars con-

TABLE 6

MEAN DMF (DECAYED, MISSING, FILLED) FIRST PERMANENT MOLARS PER CHILD

Age Group	Year	Mean DMF First Permanent Molars per Child and Standard Error of Mean					
		Sarnia	Brantford	Stratford			
9-11	1948	3.15 ± 0.051	3.26 ± 0.048	1.07 ± 0.065			
	1959	2.92 ± 0.058	1.43 ± 0.069	1.16 ± 0.062			
12-14	1948	3.62 ± 0.036	3.65 ± 0.033	1.76 ± 0.082			
	1959	3.47 ± 0.045	2.33 ± 0.070	1.82 ± 0.070			
Age Group	Differences in Mean DMF First Permanent Molars Per Child						
	Inter-City			Inter-Year			
	Year	Sarnia Brantford	Brantford Stratford	Years	Sarnia	Brantford	Stratford
9-11	1948	0.11 NS	-2.19 SS	1948-59	-0.23 S	-1.83 SS	0.09 NS
	1959	-1.49 SS	-0.27 S				
12-14	1948	0.03 NS	-1.89 SS	1948-59	-0.15 S	-1.32 SS	0.06 NS
	1959	-1.14 SS	-0.51 SS				

For levels of statistical significance, and discussion of standard error, see page 142.

tinued at the levels observed in 1948. Among Sarnia children in 1959, there was observed an increase of border-line significance in the percentage of children in the 12-14 age group having caries-free first permanent molars, while the 9-11 group continued at the same level as in 1948. Also, a decrease of borderline significance in the caries attack rates of these teeth was noted in the Sarnia children examined in 1959.

Inter-city differences between 1948 and 1959 levels show that a significant decrease has occurred in the caries attack rates of the first permanent molars among Brantford children when compared with Sarnia children, as has been the case since 1951. The Brantford-Stratford differences in this regard continue to be in favour of the Stratford children in the 9-11 and 12-14 age groups, although these differences were considerably smaller in 1959 than in 1948.

Upper Permanent Incisors

The beneficial effect of naturally fluoridated water on caries prevalence in the

human dentition becomes apparent earlier in the upper permanent incisors than in any of the other teeth. The findings of this study concerning the dental caries experience with respect to these teeth are presented in Tables 7 and 8.

In 1948 Brantford children aged 9-11 years were found to have a somewhat lower caries experience with respect to the upper permanent incisors as compared with Sarnia children of the same age. However, in the 12-14 age group caries experience in this respect was of the same order in both cities. In comparison with Stratford, however, the caries experience of the Brantford children in both age groups was higher to a markedly significant degree.

In all succeeding surveys, including that of 1959, a highly significant difference in favour of Brantford over Sarnia was found in both age groups under study. The caries experience of the upper permanent incisors of Sarnia children in 1959 was about at the same order as was observed in 1948, while Brantford children exhibited a striking decrease in this respect between 1948 and 1959.

TABLE 7

PERCENTAGE OF CHILDREN HAVING CARIES-FREE PERMANENT UPPER INCISORS

Age Group	Year	Percentage of Children Having Caries-free Permanent Upper Incisors and Standard Error of Percentage						
		Sarnia		Brantford		Stratford		
9-11	1948	76.53 $\pm$ 1.774		82.86 $\pm$ 1.544		97.07 $\pm$ 0.807		
	1959	80.42 $\pm$ 1.738		97.41 $\pm$ 0.709		97.72 $\pm$ 0.650		
12-14	1948	53.91 $\pm$ 2.261		56.16 $\pm$ 2.037		95.69 $\pm$ 1.053		
	1959	50.10 $\pm$ 2.270		90.06 $\pm$ 1.334		93.96 $\pm$ 1.087		
Age Group	Differences in Percentage of Children Having Caries-free Permanent Upper Incisors							
	Inter-City				Inter-Year			
	Year	Sarnia Brantford	Brantford Stratford	Years	Sarnia	Brantford	Stratford	
9-11	1948	6.33 S	14.21 SS	1948-59	3.89 NS	14.55 SS	0.65 NS	
	1959	16.99 SS	0.31 NS					
12-14	1948	2.25 NS	39.53 SS	1948-59	-3.81 NS	33.90 SS	-1.73 NS	
	1959	39.96 SS	3.90 S					

For levels of statistical significance, and discussion of standard error, see page 142.

A comparison of the Brantford and Stratford observations is very interesting. The first significant signs of effectiveness of controlled mechanical fluoridation of Brantford's water supply were observed in 1951, in a significant reduction in permanent upper incisor caries experience among that city's children, aged 9-11 years. At that time, however, all of the permanent upper incisor enamel in children of this age group had been formed prior to introduction of fluoride into Brantford's water supply; in fact, in two of every three children aged 9-11 years, these teeth had erupted within two years of the start of fluoridation. The protective effect observed in 1951, whether conferred pre- or post-eruptively, must be considered to have been topical.

By 1957, the 9-11 age group in Brantford was comprised for the first time since the outset of this study, of children whose permanent upper incisor enamel was formed subsequent to 1945, when fluoridation was begun in that city. These children exhibited in 1957 (2) and since then (Tables 7 and 8) the same extremely low level of caries attack upon their upper

permanent incisors as do Stratford children of comparable age.

In the 12-14 age group, the Brantford-Stratford differences in this respect continue to be in favour of the Stratford children; however, in 1959 these differences, although still significant, were considerably smaller in magnitude than those observed in 1948.

Stratford children, in both age groups examined, showed in 1959 the same levels of resistance to decay of the upper permanent incisors as was observed in 1948.

Deciduous Teeth

The precise determination of the dental caries experience of deciduous teeth is not possible because one cannot ascertain, with a high degree of accuracy, whether a missing deciduous tooth was lost as a direct result of caries attack, or as a result of natural exfoliation. Nevertheless, by measuring observable caries experience in terms of decayed and filled deciduous teeth, it is possible to obtain valuable data concerning deciduous tooth caries experience. Such data, obtained for the 9-11 age group in Brantford, Stratford

TABLE 8

MEAN DMF (DECAyed, MISSing, FILLed) PERMANENT UPPER INCISORS PER CHILD

Age Group	Year	Mean DMF Permanent Upper Incisors Per Child and Standard Error of Mean		
		Sarnia	Brantford	Stratford
9-11	1948	0.56 $\pm$ 0.048	0.34 $\pm$ 0.034	0.01 $\pm$ 0.007
	1959	0.41 $\pm$ 0.042	0.03 $\pm$ 0.010	0.04 $\pm$ 0.012
12-14	1948	1.16 $\pm$ 0.066	1.05 $\pm$ 0.058	0.07 $\pm$ 0.020
	1959	1.31 $\pm$ 0.070	0.20 $\pm$ 0.030	0.09 $\pm$ 0.018

Age Group	Differences in Mean DMF Permanent Upper Incisors Per Child						
	Inter-City			Inter-Year			
	Year	Sarnia Brantford	Brantford Stratford	Years	Sarnia	Brantford	Stratford
9-11	1948	-0.22 SS	-0.33 SS	1948-59	-0.15 S	-0.31 SS	0.03 S
	1959	-0.38 SS	0.01 NS				
12-14	1948	-0.11 NS	-0.98 SS	1948-59	0.15 NS	-0.85 SS	0.02 NS
	1959	-1.11 SS	-0.11 SS				

For levels of statistical significance, and discussion of standard error, see page 142.

and Sarnia for 1948 and 1959, are presented in Tables 9 and 10.

In 1948, the deciduous tooth caries experience was found to be of the same order between Brantford and Sarnia children in the 9-11 age group, while significant differences were observed in favour of Stratford children in this age group.

Between 1948 and 1959 a marked and significant reduction occurred in the deciduous tooth caries experience among the Brantford children studied. Inter-year differences in this respect for Stratford and Sarnia indicate the same levels in 1959 as were observed in 1948.

In 1959, comparison of the inter-city differences between Brantford and Sarnia shows a significant decrease in deciduous tooth caries experience between 1948 and 1959 in favour of Brantford children. On the other hand, Brantford-Stratford data in this respect indicate no significant differences in the age group examined.

The data presented here and previously (2) indicate that a mechanically fluoridated

water supply is highly effective in reducing deciduous tooth caries experience.

Other Effects of Fluoridation—Mottling

A few cases of very mild mottling, detectable only by an experienced examiner, were seen in Brantford and Stratford. Mottling to significant or unsightly degree was not observed at any time during the course of this study.

Medical Effects of Water Fluoridation

No untoward effects which might be attributable to the presence of fluoride in the water supply have ever been reported by the medical profession in either Brantford or Stratford.

SUMMARY AND CONCLUSIONS

1. The 1959 survey findings of the Brantford Fluoridation Study show a continuing reduction in caries experience in Brant-

TABLE 9

PERCENTAGE OF CHILDREN HAVING CARIES-FREE DECIDUOUS TEETH

Age Group	Year	Percentage of Children Having Caries-free Deciduous Teeth and Standard Error of Percentage					
		Sarnia	Brantford	Stratford			
9-11	1948	33.63 $\pm$ 1.977	34.96 $\pm$ 1.956	40.97 $\pm$ 2.366			
	1959	34.36 $\pm$ 2.081	41.83 $\pm$ 2.202	39.66 $\pm$ 2.131			
Age Group	Differences in Percentage of Children Having Caries-free Deciduous Teeth						
	Inter-City			Inter-Year			
	Year	Sarnia Brantford	Brantford Stratford	Years	Sarnia	Brantford	Stratford
9-11	1948	1.33 NS	6.01 S	1948-59	0.73 NS	6.87 S	-1.31 NS
	1959	7.47 S	- 2.17 NS				

For levels of statistical significance, and discussion of standard error, see page 142.

TABLE 10

MEAN DF (DECAYED, FILLED) DECIDUOUS TEETH PER CHILD

Age Group	Year	Mean df Deciduous Teeth Per Child and Standard Error of Mean					
		Sarnia	Brantford	Stratford			
9-11	1948	2.50 $\pm$ 0.111	2.37 $\pm$ 0.101	1.66 $\pm$ 0.095			
	1959	2.29 $\pm$ 0.106	1.68 $\pm$ 0.089	1.80 $\pm$ 0.093			
Age Group	Differences in Mean df Deciduous Teeth Per Child						
	Inter-City			Inter-Year			
	Year	Sarnia Brantford	Brantford Stratford	Years	Sarnia	Brantford	Stratford
9-11	1948	-0.13 NS	-0.71 SS	1948-59	-0.21 NS	-0.69 SS	0.14 NS
	1959	-0.61 SS	0.12 NS				

For levels of statistical significance, and discussion of standard error, see page 142.

ford children fourteen years after the introduction of about 1 part per million of fluoride into its water supply. These and previous data (1,2) indicate that a significant and progressive reduction in dental caries of Brantford children at the ages studied has taken place from survey to survey since 1948. Although Stratford (which has a naturally fluoridated water supply) still seems to have somewhat better caries levels, the Brantford-Stratford differences are in general small.

2. There is no doubt as to the efficacy of a mechanically fluoridated water supply (containing about 1 part per million) in very markedly reducing the caries experience in children born subsequent to fluoridation.

3. There is essentially no difference in caries-reducing effect between a naturally fluoridated water supply and a mechanically fluoridated water supply.

4. No ill effects of either a medical or dental nature have been revealed by our

study, or reported by the medical profession, by the dental profession, or by the health authorities in either Brantford or Stratford.

ACKNOWLEDGEMENTS

This study has been greatly facilitated by the courteous cooperation of the school authorities, Public, Separate and High, of Brantford, Sarnia and Stratford. The friendly interest and help from Principals and School Staffs has been reflected in the highest degree of cooperation from the pupils. For this we wish to express our sincere thanks.

The authors wish to gratefully acknowledge the advice and assistance which was so generously given during the conduct of this study by G. H. Josie, Sc.D., M.P.H. and Barbara J. Stewart, B.A. of the Research and Statistics Division of the Department of National Health and Welfare.

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Footnotes to tables:

Decrease indicated by minus sign.

Levels of statistical significance:

S Statistically significant at two standard error level;

SS Statistically significant at three standard error level;

NS Not statistically significant (p greater than 5%).

Standard Error:

The standard error is a measure of the variation which is associated with the sampling process. The difference between two index values is said to be statistically significant when the probability of it arising from chance or sampling variation, i.e., rather than from one specific factor such as fluoridation, is below some agreed value. The agreed levels of statistical significance are arbitrary but are generally assumed to be the two standard error and three standard error levels. The probability of obtaining, by chance, a difference of the magnitude of two standard errors between two observed values is about 0.0445 or just below 5 per cent. The odds against such a difference occurring are, therefore, about 21 to 1. For the three standard error level, the probability is less than one per cent (0.27 per cent) and the odds are 369 to 1 against this occurrence by chance. When differences of these magnitude are found, particularly those as great as three standard errors, we may feel quite confident in discussing them in terms of our hypothesis.

Standard errors shown have not been adjusted for finite population correction and are therefore overstated. Where no sampling was done in Sarnia and Stratford, the sampling error is, of course, zero; but the standard errors shown are used in the comparison of pairs of averages.

Dept. of Natl. Health and Welfare

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C.D.A. PREMIERE

For the first time in C.D.A. history, the Board of Governors will meet in the Parliament Buildings. Every Canadian dentist can enjoy this unique privilege by attending these sessions from Sept. 21st to Sept. 24th.

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EDITORIAL

The Canadian Dental Association Retirement Savings Plan

There are numerous retirement savings plans available to Canadian dentists from Mutual Funds and Trust companies but the greatest financial benefit is far more likely to accrue to those who participate in the Canadian Dental Association Retirement Savings Plan. Recent income tax concessions can be beneficial to every dentist with the possible exception of those approaching the mandatory retirement benefit age of 71 and the very recent graduate.

The principle of income tax deductibility of a portion of a person's income which he sets aside for retirement purposes, was finally acknowledged by the Canadian government after years of strenuous representations by professional associations. When the applicable legislation was enacted, the scope offered went further than most had hoped. It was however to be expected that conditions would be imposed which would limit or nullify the tax advantages if the savings thus accrued were utilized in any way other than the provision of pension benefits.

There are no statistics giving the number of dentists who are making use of this legislation, but the number participating in the Canadian Dental Association Retirement Savings Plan would indicate that the proportion is by no means large. This conclusion is reached because the

C.D.A.R.S.P. is the best plan available to dentists, and has been given widespread publicity to the profession.

All members have received a booklet describing the Plan and further copies will shortly be available for anyone who has mislaid the original. For this reason it is not intended to elaborate on the operation or details of the Plan, but to emphasize some of the points which make it the best plan for dentists.

(1) Flexibility: Three separate funds are available and contributions may be made to any or all of these. This allocation between funds can be changed by the participant at any time and he can also transfer equity from one fund to another.

(2) Freedom of Action: Deposits may be made at any time and for any amount subject to the statutory limit on the amount which can be claimed as deductible in any one year. It is not necessary to maintain a payment every year, although of course, the best results will be derived from the maintenance of regular deposits.

(3) Security: The Trustee and Investment Manager of the Plan is the Royal Trust Company, the largest Canadian trust company, with a wealth of experience in investment and management of estate and pension funds.

(4) Administration: Professional and Industrial Pensions Limited, the organization established to administer the C.D.A. Pension-Assurance Plan, have undertaken the responsibility of dealing with applications, individual accounts and general servicing of C.D.A.R.S.P. Approximately 3,000 dentists already have dealings with this administration office in connection with one aspect or another of the Pension-Assurance and Hospitalization Plans.

(5) Expense: On this count alone, the use of the Group Plan can be more than justified. The only charge made is one eighth of 1% per quarter of the value of the funds. Individual Trust Company plans charge 50% more than this, and Mutual Funds in addition to a similar administration charge have a 'loading' of 7½%-8½% applied against the investment made.

It is possible that many members have registered life assurance contracts or savings plans elsewhere. This does not preclude them from joining C.D.A.R.S.P. in addition, as long as their total annual deductible contribution to all registered plans does not exceed the lesser of 10% of earned income of \$2,500.00.

The advantages of contributing to a retirement savings plan are obvious and readily understood. The following example illustrates the point, but it is a simple matter to relate it to one's own circumstances.

Assume that Dr. A. aged 40 has an earned income of \$15,000.00 a year and is married with two children under 16 years of age. If he contributes \$1,000.00 per year to the R.S.P. his yearly tax saving will be \$370.00 or 37% of his gross contribution. If Dr. A. dies before having elected to receive an annuity, the full amount accumulated over the years and standing to his credit will be paid to his estate less only 15% tax.

If he does not die and elects to have an annuity at say age 65, and if his contributions have accumulated at an average of 5% per annum net, the amount avail-

able to purchase an annuity will be \$50,110.00. At current rates this will buy an annuity of approximately \$355.00 a month. The annuity does not have to be taken at any specific age except that it must be taken before age 71. In the above example, if Dr. A. has no other taxable income apart from his annuity, he will pay tax thereon amounting to \$21.00 a month or about 6%. He would have to have a separate and additional earned income of \$12,000 before the percentage of tax applicable to the annuity would equal the percentage of relief he had secured on his contributions. These calculations have of course been based on current rates of tax and allowances.

There are one or two possible situations when participating in the C.D.A.R.S.P. or any other plan of this nature would be to the individual's disadvantage. If a participant's total income including his annuity placed him in a higher tax bracket than when he was claiming his deduction, reduced tax benefits would obviously be lost. This would seem to be a rare occurrence. Also, if a participant wishes to withdraw from such a plan, the amount withdrawn must be added to the earned income of the year that it is received. The combined amounts will then be subject to income tax as earned income with a minimum of 25% tax applying to the withdrawn amount. This latter eventuality should be avoided if at all possible, and it is therefore prudent to have some separate savings which can be drawn upon in an emergency.

A registered retirement savings plan is likely to be of considerable financial benefit to most dentists and the C.D.A.R.S.P. is the best plan available to them. The degree of individual participation should be governed by individual circumstances. No participation should be contemplated until some suitable form of savings has been established to provide for current emergencies and until adequate provision has been made for dependents. These two items can most economically be obtained through the C.D.A. Pension Assurance Plan.

BOOK REVIEWS

Accepted Dental Remedies—1960. Prepared by: A.D.A. Council on Dental Therapeutics. Pages: 226 Price: \$3.00

Accepted Dental Remedies 1960 is the twenty-fifth edition of a book that has become widely recognized as a handbook of dental therapeutics. Its principal function is to provide information on the usefulness of drugs in dentistry. It further serves to alert the dentist to special problems that may be encountered when a patient seeks dental service while receiving medication or treatment by a physician. Emphasis is placed upon the importance of cooperation between the dentist and physician when the patient gives a history of diabetes, cardiovascular disease or of medication with such potent drugs as the corticoids.

The revised edition contains expanded sections on dental therapeutics. The monographs have been reviewed by the Council and its consultants and have been rewritten in the light of current scientific information. The reorganized format which made the 1958 and 1959 editions so popular has been retained with certain additional improvements. An informative statement on "ataractic" or "tranquilizing" drugs has been included.

As in earlier editions, Accepted Dental Remedies 1960 includes information concerning drugs of recognized value in dentistry, drugs of uncertain status more recently proposed for use by the dentist, and some drugs once employed extensively but now generally regarded as obsolete. Only brands of drugs which the Council has accepted as of demonstrated value in dentistry are listed.

Accepted Dental Remedies 1960 contains 226 pages, including the provisions for acceptance of products, a general index, a distributors' index, an index of current reports from the Council and the Division of Chemistry, and an index of more recent reports on products not listed in the book, including those classified in Groups B, C and D. The book sells for \$3.00 a copy and is now available from the Order Department of the American Dental Association.

J. Roy Doty.

Conduction, Infiltration and General Anaesthesia in Dentistry, by Mendel Nevin, D.D.S., and J. R. Bouroyne, B.S., D.D.S., 392 Pages. Illustrated. Index. Dental Items of Interest. Brooklyn, N.Y. 1959. Price: \$8.50.

This twentieth edition is very worthwhile. A copy of it is highly recommended for the bookshelf of every practising dentist.

The section dealing with anatomy of the pertinent parts of the head is excellent. The illustrations are clear and descriptive. The chapters dealing with the nerve structures of interest to dental surgery and techniques for infiltrating or blocking same are well done. Though there is much detail, reviewing those chapters should not take too much time. It is easy reading. There are certain procedures discussed which are not generally or frequently employed, such as the blocking of the maxillary nerve. Nevertheless, a knowledge of technique of doing these is very useful in certain situations, and one may be well advised to become familiar with them.

The Pterygomandibular injection described is the one now generally taught and employed—the direct approach technique of Lindsay.

Perhaps the infraorbital injection is given too much emphasis and space. Infiltration technique is quite popular and ample for the routine case, rather than probing for the infraorbital foramen with its possible complications.

The chapter on preparation and care of the syringe and needle is useful and rightly points out the need of aspirating syringes. However, the chapter on Local Anaesthesia with Penicillin might better have been omitted, as it is a combination of dubious merit and may provide a feeling of false security. There is an ample variety of penicillin preparations which may be injected intramuscularly or given orally and in required dosages.

Part II of the textbook under the heading of General Anaesthesia and Analgesia, by Roy Bourgoyne, B.S., D.D.S., serves a very useful purpose in emphasizing the value of

general anaesthesia in dentistry generally.

This section is a summary of various aspects of general anaesthesia in dentistry rather than a detailed study of subject of general anaesthesia. The indications and contraindications are briefly stated. Various popular machines and other useful armamentaria as well as the anaesthetic agents are also described. This part in the text seems to keep the benefits of general anaesthesia in dentistry in good perspective in relation to

local anaesthesia and in fact that it is its main contribution.

A regular review of material that often becomes commonplace to the practising dentist is very necessary to maintain some semblance of a "scientific" understanding of what is being performed and to help retention of proper nomenclature.

For such purpose this textbook is very useful.

P. T. Smylski

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PERMAR, D. A manual of oral embryology and microscopic anatomy, 2nd ed. Philadelphia, Lea & Febiger, 1959. 121 p. illus. \$5.50.

SCHWARTZ, L. Disorders of the temporomandibular joint. Philadelphia, Saunders, 1959. 471 p. illus. \$15.00.

A simplified mailing procedure for library books has been instituted. Authorization has been received from postal authorities to mail at special book rates, resulting in a considerable saving to the Association, and eliminating postage costs to borrowers.

Now books are to be returned in their original wrappers, using the return label provided, and leaving the original postage tape intact. The borrower's return address should be omitted. In this way, the borrower is not required to pay postage.

THE ASSOCIATION

New governor appointed

Dr. Owen J. Yule, of Toronto, has been appointed to the C.D.A. Board of Governors as a representative of the Royal College of Dental Surgeons of Ontario. The additional Ontario representation is made possible because of the election of an Ontario representative, Dr. W. G. McIntosh, to the presidency of the national association.

New Dental Auxiliaries proposed

Dr. J. Donovan Ross, Minister of Health for Alberta, recently announced government legislation to provide for training of Registered Dental Auxiliaries. A government plan for extending dental services to rural children calls for portable clinics manned by registered dental auxiliaries under professional supervision.

The next session of the Alberta legislature is expected to consider the new bill. The proposed legislation also calls for setting up a two year course to train these auxiliaries. It is hoped that some clinics may go into operation in rural areas next summer, operated by dentists and third and fourth year dental students.

Briefly, this is how the plan is intended to work: The dentists in the clinic will carry out examination, diagnosis and treatment planning and cavity preparation. Auxiliaries would insert fillings and perform services such as topical fluoride applications, prophylaxis and dental health education. These portable clinics would operate within the framework of the 22 health units in the province. Preventive treatment is to be free to pre-school and school-age children during clinic hours. After hours, dentists would be permitted to treat adults and to charge fees for treatment.

More than 150 dentists from Edmonton and Calgary have volunteered to work with the clinics on two-week shifts. Representatives of the Alberta Dental Association and the Faculty of Dentistry, University of Alberta cooperated with the government on plans for providing dental care in rural areas.

Federal Health Department says fluoride cuts decay

Federal scientists have completed the basic work in an 11-year study of the effects of fluoridated water on children's teeth in three Ontario centres, concluding that fluoridation undoubtedly brings marked reductions in tooth decay.

The study, begun in 1948 and involving more than 50,000 dental examinations of children in Brantford, Stratford and Sarnia, now presents a complete picture of fluoridation effects on permanent and baby teeth of children.

For 42 years, Stratford has used naturally fluoridated water. Brantford has been adding sodium fluoride to its water in the proportion of one part per million for the last 14 years and Sarnia has negligible amounts of fluoride in its water.

The seventh report on the study, released by the Federal Health Department, reinforces earlier conclusions about the usefulness of fluoridation in preventing tooth decay. The project was headed by Dr. H. K. Brown, Health Department dental consultant. The complete report appears in this issue.

The report makes four conclusions arising from examinations of children in the age groups 9-11 and 12-14:

1. "There is no doubt as to the efficacy of a mechanically fluoridated water supply — containing about one part per million — in very markedly reducing caries (cavities) experience in children born subsequent to fluoridation."
2. "There is essentially no difference in caries-reducing effects between a naturally fluoridated water supply and a mechanically fluoridated water supply".
3. "No ill effects of either a medical or dental nature have been revealed by our study, or reported by the medical profession, by the dental profession or by the health authorities in either Brantford or Stratford."
4. There has been "a significant and progressive reduction in dental caries of Brantford children at the ages studied" since that city began fluoridation in 1945. Stratford children had a somewhat better caries level, but the Brantford-Stratford differences are in general small.

The projects report showed some startling changes in the percentages of children in Brantford with cavity-free permanent teeth between 1948 and 1959. In the age group 9-11, only 5.71 per cent of the children had cavity-free permanent teeth in 1948, compared with 43.32 per cent this year. In the 12-14 age group, the percentage rose from 1.8 to 18.69. Comparable percentages for Sarnia were 6.13 per cent in the 9-11 group in 1948, against 8.06 in 1959 and 0.62 per cent in the 12-14 groups in 1948 and 2.27 in 1959.

Where the health insurance premium goes

According to the U. S. Health Insurance Newsletter the percentage of the premium dollar actually paid out in benefits is: individual commercial insurance pays out 53c; commercial group plans pay out 77c; and nonprofit health plans pay out 90c.

Credit card for dental services

Recently some effort has occurred in Canada by promoters to establish use of credit cards for dental services. This would mean that dentists would be required to sign a contract in some form to the effect that they would recognize the patient holding a specific credit card.

The A.M.A. News published by the American Medical Association states "the plan and publicity material are ill conceived and contain errors of fact and false implications." The promoters of such a credit card plan unsuccessfully sought approval of the American Medical Association. Rejection was based on the plan not being in the best interests of patients or the medical profession.

The Royal Society of Health

The Royal Society of Health has informed the President and Secretary that Active Membership and Life Membership of the Canadian Dental Association have recently been accepted as qualifications for full Membership of the Society which is the highest grade to which any person may be directly elected.

The Society, which is the largest of its kind in the world was founded in 1876, and is under the Patronage of Her Majesty Queen Elizabeth and the Right Hon. the Lord Cohen of Birkenhead. A dental surgeon, Dr. W. G. Senior, C.B.E., F.D.S.R.C.S., is Chairman of Council of the Society. Its objects are to promote the health of the people including their dental health, and among a membership of 22,500 are many dental surgeons.

Members receive the Journal which contains papers and reports of discussions at the various meetings and at the annual International Health Congress. The Journal enables its readers to keep abreast of developments in the entire field of health at home and abroad and includes details of new products and equipment, research items and other information. The Society has a Technical Information Bureau and all Members are invited to make full use of this facility.

Members have the right to indicate their association with the Society by the designatory letters M.R.S.H.

Members of the Canadian Dental Association are invited to apply for Membership of the Society and the Secretary would welcome enquiries addressed to him at 90 Buckingham Palace Road, London, S.W.1.

A DEPENDABLE PUBLICATION

Health Magazine, the official organ of the Health League of Canada, has been published since 1933 in the interest of health in general of Canadian families. The articles are usually written by specialists in the various fields of health and emphasize prevention. Responsible and generous coverage have always been accorded dentistry, particularly its preventive aspects. We wish to commend *Health Magazine* for its dependable service to the Canadian public. For reception room and home reading this publication, appearing bi-monthly in its new convenient form, is most highly recommended.

EDITOR

THE DENTAL STUDENTS' REGISTER

1959-1960

HIGHLIGHTS FROM DENTAL STUDENTS' REGISTER

Enrolment

There are 82 more students in Canadian dental schools than a year ago. Most of this increase is due to the new school at the University of Manitoba and the new Toronto building. There are five fewer women students. Enrolment beyond the undergraduate level has increased. The number of dental hygiene students, in the only course available in Canada, is unchanged.

Graduates

203 dentists were graduated in 1958 but only 193 in 1959. No improvement in the ratio of dentists to population is anticipated as a result.

Foreign Students

There are 10 more students from outside Canada than last year. Forty-six Canadians attend U. S. dental schools, three more than a year ago. Canadian dental schools have 59 Americans enrolled compared with 50 last year.

Capacity

The total number of students which can be accommodated per class has increased by 44.

Costs

Students' average expenses for a four year course have not changed appreciably this year. Exclusive of room and board, average cost ranges from about \$3,000 to \$4,000.

TABLE I
ENROLMENT
1959-60 Term

	UNDERGRADUATES							OTHER STUDENTS				
	Freshmen	Sophomores	Juniors	Seniors	Men	Women	Total	*Graduate	**Post-Graduate	***Occasional	Dental Hygiene	
											1st yr.	2nd yr.
Dalhousie.....	18	12	13	17	58	2	60					
McGill.....	38	34	35	38	138	7	145					
Montreal.....	44	48	34	46	169	3	172					
Toronto.....	119	93	62	94	351	17	368	10	11	1	8	6
Manitoba.....	24	18			41	1	42					
Alberta.....	36	31	25	27	118	1	119		2	21		
Total.....	279	236	169	222	875	31	906	10	29	24	8	6

*"Graduate" refers to dental graduates registered in the Graduate School of a university, proceeding to a degree.

**"Post-Graduate" refers to dental graduates registered in a dental faculty proceeding to a degree, diploma, or certificate.

***"Occasional" refers to dental graduates registered in a dental faculty for courses of varying duration not proceeding to a degree, diploma, or certificate.

TABLE II
RECORD OF UNDERGRADUATE ENROLMENT

	1940-41	1950-51	1955-56	1957-58	1958-59	1959-60
Dalhousie	31	48	47	53	55	60
McGill	58	145	136	141	144	145
Montreal	104	196	161	176	178	172
Toronto	210	380	310	310	319	368
Manitoba					21	42
Alberta	51	114	115	107	107	119
Total	454	883	769	787	824	906

TABLE III
TOTAL NUMBER OF GRADUATES

	1940	1950	1955	1957	1958	1959
Dalhousie	12	11	13	11	16	17
McGill	13	36	35	29	34	36
Montreal	23	42	19	34	49	40
Toronto	56	168	78	78	75	74
Alberta	13	49	29	34	29	26
Total	117	306	174	186	203	193

1959 Graduates**Male Female**

Dalhousie	16	1
McGill	35	1
Montreal	40	
Toronto	68	6
Alberta	25	1
Total	184	9

TABLE IV
**DISTRIBUTION OF UNDERGRADUATE STUDENTS BY HOME PROVINCES
AND FOREIGN COUNTRIES**

	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	United States	British West Indies	Bermuda	British Guiana	Hong Kong	Australia	Great Britain	Europe	Others	Totals
Dalhousie University....	8	1	18	12		3	1			4	4	1	1			4	2	1		60
McGill University....	1		1	2	52	15	2	5		5	47	9	1	2	2				1	145
University of Montreal...				5	159	3		2			3									172
University of Toronto....						1	329	6	6	6	4				1	11	3	1		368
University of Manitoba...							1	31	5	3					1				1	42
University of Alberta....							4	24	63	25	1			1					1	119
Totals	9	1	19	19	212	351	44	42	63	43	59	10	2	3	4	15	5	2	3	906

TABLE V
A—PERCENTAGE OF CANADIAN DENTAL SCHOOL STUDENTS FROM EACH PROVINCE
B—RATIO OF STUDENTS TO POPULATION OF HOME PROVINCES

Home Province	Percentage	*Ratio
Newfoundland.....	.99	1/49,889
Prince Edward Island.....	.11	1/102,000
Nova Scotia.....	2.10	1/37,684
New Brunswick.....	2.10	1/31,053
Quebec.....	23.40	1/23,580
Ontario.....	38.74	1/16,957
Saskatchewan.....	4.86	1/20,114
Alberta.....	6.95	1/21,476
British Columbia.....	4.75	1/19,730
Canada.....	88.63	1/36,512
Other Countries.....	11.37	1/19,252

*Population figures used were supplied by the Dominion Bureau of Statistics, as of June 1, 1959.

Note: Students from Canada attending dental schools in the United States have not been included in computing this table.

Canadians enrolled in American Dental Schools:

Alberta.....	6
British Columbia..	19
Manitoba.....	3
New Brunswick..	2
Ontario.....	9
Quebec.....	1
Saskatchewan....	6
Total.....	46

TABLE VI
PRE-DENTAL TRAINING OF UNDERGRADUATES

	2 Years	3 Years	4 Years	Canadian Degree		Degree From Outside Canada	
				Bachelor	Other	Bachelor	Other
Dalhousie.....	19	8	2	22	—	6	3
McGill.....	24	25	11	45	—	32	8
Montreal.....	—	—	—	161	—	10	2
Toronto.....	287	10	5	33	12	15	6
Manitoba.....	13	11	7	10	1	—	—
Alberta.....	82	18	14	5	—	—	2

TABLE VII
GRADUATES WITH PRIOR BACHELOR'S DEGREE

Class of 1959	Total Grads	Bachelor's Degree	Percentage
Dalhousie.....	17	10	59
McGill.....	36	28	78
Montreal.....	40	40	100
Toronto.....	74	9	12
Alberta.....	26	2	8
Total.....	193	89	46

	Dalhousie	McGill	Montreal	Toronto	Manitoba	Alberta
Can students earn bachelor's degree during dental study, thus graduating with both a bachelor's and a dental degree?.....	Yes	Yes	No	No	—	Yes
How many 1959 graduates did this?.....	—	6	—	—	—	—

TABLE VIII
DATES OF ADMISSION AND GRADUATION

	1959-1960		1960-1961		Freshman Application should be filed by
	Admission	Graduation	Admission	Graduation	
Dalhousie.....	Sept. 9	May 19	Sept. 7	May 15	May 30, 1960
McGill.....	Sept. 8	May 27	Sept. 7	May 26	March 1, 1960
Montreal.....	Sept. 17	May 31			July 1, 1960
Toronto.....	Sept. 23	May 27	Sept. 21	May 26	Sept. 1, 1960
Manitoba.....	Sept. 4		Sept. 1		April 30, 1960
Alberta.....	Sept. 8	June	Sept. 6	June	May 16, 1960

TABLE IX
CAPACITY PER UNDERGRADUATE CLASS

Dalhousie.....	25
McGill.....	38
Montreal.....	60
Toronto.....	124
Manitoba.....	30
Alberta.....	30
Total Canada.....	307

TABLE X
ESTIMATED AVERAGE COST FOR 4 YEAR COURSE

	Dalhousie	McGill	Montreal	Toronto	Manitoba	Alberta
Tuition.....	\$1,680.00	\$2,400.00	\$1,700.00	\$2,200.00	\$1,800.00	\$1,560.00
Instruments.....	1,025.00	1,620.00	1,000.00	492.00	1,000.00	1,110.00
Text Books.....	205.00	incl. with instruments	300.00	200.00	400.00	245.00
Supplies.....	75.00	incl. with instruments			100.00	incl. with instruments
Incidentals.....	180.00	incl. with instruments	346.00	224.00	100.00	incl. with instruments
Total.....	3,165.00	4,020.00	3,346.00	3,116.00	3,400.00	2,915.00
Room & Board.....	2,500.00	*3,000.00	3,000.00	2,560.00	2,200.00	2,340.00

*University Residence.

TABLE XI
STUDENT ASSISTANCE

	Dalhousie	McGill	Montreal	Toronto	Manitoba	Alberta
Undergraduate Scholarships Available.....	Yes	Yes	No	Yes	Yes	Yes
Loans Available For Undergraduates.....	Yes	Yes	Yes	Yes	Yes	Yes
Graduate Scholarships Or Fellowships Available.....	No	No	No	Yes	No	Yes

TABLE XII
ADMISSION WITH ADVANCED STANDING

	Dalhousie	McGill	Montreal	Toronto	Manitoba	Alberta
Will-admit Graduates with advanced standing from outside Canada.....	Yes	Yes	Yes	Yes	Yes	Yes
Number of Present Undergraduates in this Category.....	8	6	2	20	0	2
Number of these Students from:						
Australia.....	4			11		
Austria.....			1			
France.....			1			
Germany.....	1			3		
Greece.....		4				
Holland.....						1
Hong Kong.....				1		
Hungary.....						1
Iran.....		1				
Lithuania.....	1	1				
Poland.....				1		
Turkey.....				1		
United Kingdom.....	2			3		

NOTICE

Registration Form for the Annual Convention of the Canadian Dental Association — Ottawa, September 25-28, appears on page A-34 of this issue.

CANADA'S CAPITAL

The National Capital is not only Government Buildings. The largest part of the Capital lies outside the city of Ottawa. A new Parkway cuts into the heart of beautiful wooded country in the Quebec Laurentians, that section of the National Capital just to the North of the city.

In September, C.D.A. Convention time, the maples will be at their scarlet best. A drive on the Parkway will be a memorable experience.

Centenary of the Swedish

Dental Society

The year 1960 will mark the Centenary of the Swedish Dental Society. The Society was founded in 1860 and is one of the oldest national dental organizations in the world. Its purpose is to promote the development and practical application of dental science.

The occasion will be celebrated by an International Centenary Congress to be held from August 17th to 20th, 1960, under the patronage of His Majesty the King of Sweden.

The Congress will be held in Stockholm at the Concert Hall and at the recently built premises of the Swedish Dental Society, the Apollonia. A four-day scientific programme will be arranged, covering all fields of odontology and comprising lectures, symposiums, panel discussions and table clinics. Prominent researchers and clinicians from all parts of the world will participate. Special series of papers will be read in English by Swedish and other Scandinavian dentists. These papers are especially intended to give the visiting colleagues some idea of the progress of Swedish and Scandinavian odontologic research and clinics and to show the present standard of odontology in the Scandinavian countries. One of these series will

show how the public dental health service is arranged in Sweden.

An historical exhibition is planned, including various objects and publications from the past century, illustrating the scientific and technical development of odontology up to the present time. An international dental trade exhibition will also be arranged in connection with the Congress.

Apart from the purely scientific part of the programme, excursions for study purposes as well as social gatherings will be arranged. The main event will be a Centenary Banquet in the Stockholm City Hall on August 20th.

A sight-seeing programme with visits to places of cultural and historical interest is being prepared for those accompanying the participants in the Congress.

A number of Swedish and Scandinavian travel bureaus, including the Swedish-American Line and SAS, offer their services in connection with arrangements for the trip to and from the Congress.

Further information about the Centenary Congress — hotel reservations, etc. — may be obtained from the Secretary, the Swedish Dental Society, Nybrogatan 53, Stockholm O.

C.D.A. OTTAWA CONVENTION SEPTEMBER 25 - 28 — SPECIAL FEATURE —

*Presenting To The Practising Dentist Recent Advances Made By His
Colleagues Engaged In Teaching And Research.*



Government of Canada—Department of National Health
and Welfare

SUBJECT: — "Eskimo Studies."

SUMMARY: — *Short talk illustrated by data and colour slides to
demonstrate dental conditions and dental care of
Eskimos.*

CLINICIAN: — Hugh R. McLaren, C.D., D.D.S., D.D.P.H.

U. S. Naval Dental School

SUBJECT: — "Advances in Cariology."

SUMMARY: — *A study of the morphologic appearance of pre-
clinical and clinical carious lesions will be pre-
sented. The extent and pattern of demineraliza-
tion will be demonstrated by color transparencies,
x-rays, photomicrographs, and microradiographs
of undemineralized serial slices through the
carious lesion.*

CLINICIAN: — Merrill G. Wheatcroft, Captain, Dental Corps,
U.S. Navy.



University of Alberta

SUBJECT: — "Modern Concepts of Oral Roentgenology."

SUMMARY: — *Attention will be given to radiation hazards, col-
limation, filtration, kilovoltage and intra-oral
technique in this presentation.*

CLINICIAN: — H. R. MacLean, D.D.S., F.A.C.D., F.I.C.D.

University of Manitoba

SUBJECT: — "Audio-Visual Methods in Undergraduate Teach-
ing."

SUMMARY: — *This presentation will attempt to reveal some of
the present day methods used in undergraduate
instruction. Effective modern aids, including
closed circuit television, help both the student
and his faculty to attain the goal of undergradu-
ate training: A well informed, well trained
graduate.*

CLINICIAN: — H. W. Hart, D.M.D.





University of Toronto

SUBJECT: — "An Evaluation of the Relative Efficacy of Preventive-Interceptive Orthodontic Therapy."

SUMMARY: — *The exhibit which is being presented attempts to illustrate the various aspects of research which are being undertaken at the Burlington Orthodontic Research Centre. There are seven displays which take the following headings: Sample, Records, Epidemiology, Patterns of Growth, Genetics, Diagnosis, Treatment Planning.*

CLINICIAN: — Margaret E. Hatton, B.A., Ph.D.

University of Montreal

SUBJECT: — "Orthodontics For The General Practitioner."

SUMMARY: — *This clinic will first review some cases of malocclusion susceptible of being easily corrected by the general practitioner. It will then describe uncomplicated removable plates, the handling of which requires but little care.*

CLINICIAN: — Paul Geoffrion, B.A., D.D.S., A.I.D.O., (R.A.) F.I.C.D., F.A.C.D.



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Geraldine Carpenter

McGill University

SUBJECT: — "Emergency Endodontic Procedures."

SUMMARY: — *A review of Endodontic treatment applicable to the handling of those clinical cases which present something of an emergency nature will be discussed under the following headings:
(1) Traumatic Injuries (2) Inflammatory reactions arising from teeth with pulp involvements.*

CLINICIAN: — Wilfred J. Johnston, D.D.S., F.I.C.D.

Dalhousie University

SUBJECT: — "Gold-Porcelain Restorations — Chairside Procedures."

SUMMARY: — *This clinic includes preparation of maxillary and mandibular bicuspsids and anterior teeth. Construction of transfer copings and an impression technique. Typical results will be illustrated.*

CLINICIAN: — John E. Merritt, D.D.S.



Royal Canadian Dental Corps

SUBJECT: — "The Dental Officer's Role in Casualty Care During a National Emergency."

SUMMARY: — *This presentation will, with the aid of demonstration models, refer to the diagnosis and preliminary treatment of casualties in case of a National Emergency.*

CLINICIANS: — Major J. C. Brick (left)
Lt.-Col. L. G. Craigie (right)



THE CORPS

Captain Fafard Promoted

Army Headquarters has announced the promotion of Captain P. E. Fafard to the rank of Major effective January 16, 1960.

Major P. E. Fafard was born in Eastend, Sask. in 1919. He received his dental education at the University of Montreal, graduating in 1951. He holds a BA degree. During the war he rose from a private to captain in the infantry and was wounded in action. He enrolled in the RCDC in June, 1951 as a Captain and since that time has served in Quebec Command, Prairie Command, Germany and Central Command. He is now serving at RCAF Station Clinton, Ont. Major Fafard is married with four children.

RCDC Officers attend Courses in USA

The following RCDC officers have recently attended or are attending postgraduate courses in the USA:

Col. B. P. Kearney, Camp Borden, Ont.
Radiography at the University of Michigan,
Ann Arbor, Michigan.

Lt.-Col. C. E. Purdy, Winnipeg, Man.
Advanced Dentistry at the Walter Reed
Army Institute of Research,
Walter Reed Army Medical Centre,
Washington, D.C.

Lt.-Col. R. B. Jackson, Ottawa, Ont.
Partial Denture Prosthesis at the U. S.
Naval Dental School,
Bethesda, Maryland.

Major Brick to Far North

Major J. C. Brick of the Directorate of Dental Services, Ottawa can probably claim the distinction of providing dental treatment further north than any dentist in Canada by virtue of a trip in early February to Alert, in the Northwest Territories and Thule, Greenland. The former is only 450 miles from the North Pole.



RCDS FLASHBACK

The above photo taken at Camp Debert, N.S. during the summer of 1941 is the first in a series of Second World War photographs to be published in the Corps News.

The supply of this type of photograph at Army Headquarters is limited and if any Journal readers have interesting photographs concerning the CDC taken during the war that they would be willing to have published please forward them to the following address:

*Director General of Dental Services,
Army Headquarters,
OTTAWA 4, Ontario.*

Postings

The following postings of dental officers have taken place in the Corps recently:

Major A. R. Ramsay to Montreal from
HMCS "Bonaventure".

Major P. H. Guevremont to HMCS
"Bonaventure" from RCAF Station St.
Hubert, Quebec.

Major Hughson Released from Corps

Major J. E. Hughson of Galt, Ont. has taken his release from the RCDC to enter private practice in Alliston, Ont.

THE PROVINCES

ALBERTA

Dr. Orobko Elected to Edmonton Board of Health

Dr. William Orobko of Edmonton was elected for the third consecutive term as chairman of the Edmonton Board of Health. He was first named in January, 1958, and was re-elected January, 1959.

Dr. Orobko, a University of Alberta graduate who taught there for 12 years is a wartime veteran of the RCAF, and a past president of the Edmonton Dental Society. He is also a past president of the Edmonton Public School Board and is the school board's representative on the health board.

Faculty of Dentistry

During the first week of 1960, the Faculty of Dentistry, University of Alberta, was honoured by the visitation of Dr. A. C. Lewis, former Dean of Education, University of Toronto. Dean Lewis met with the students as well as members of the Faculty. He was able to hear various lectures, to observe students in the clinic and to visit the laboratories.

Dr. Arne Lauritzen of Seattle, Washington, was able to visit the University of Alberta during his stay in Edmonton while presenting his clinic to the Edmonton and District Dental Society. During his visitation he was able to present many of his techniques employed in prosthodontics with special reference to their application to occlusion.

We are especially indebted to these men for the time they spent with us.

R.G.S.

Dr. R. A. Rooney Honoured

A prominent Edmonton dentist, Dr. R. A. "Art" Rooney, was honoured by his professional associates on January 18th at the Seven Seas Restaurant.

The banquet under the auspices of the Edmonton and District Dental Society, attracted more than 150 dentists from all parts of the province, all of whom were familiar with Dr. Rooney's record as a practising dentist, a leader in Canadian dental organizations, and as a professor at the University of Alberta.

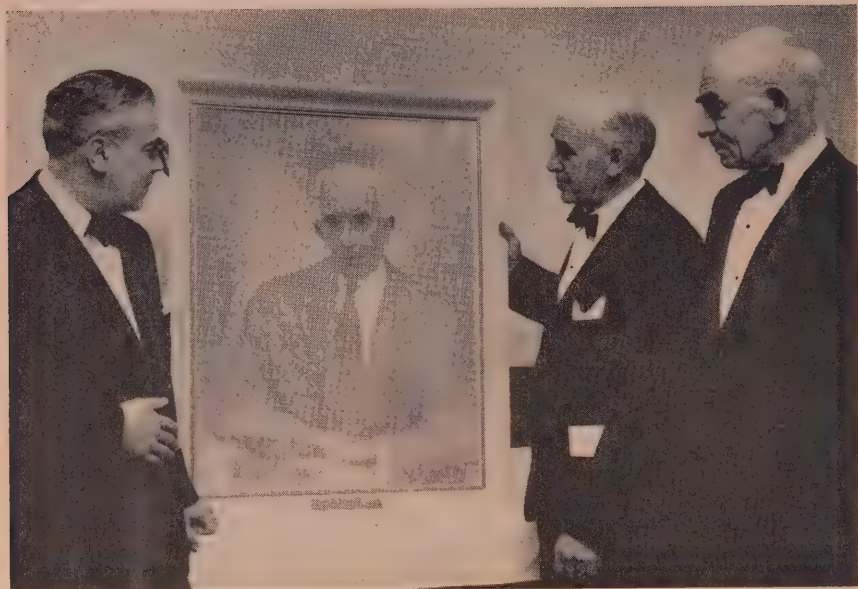
Highlight of the program was the unveiling of a portrait of Dr. Rooney, and its presentation to Dr. Walter Johns, president of the University of Alberta. The portrait will be hung in the dentistry department of the university.

The painting was commissioned last year by the Alberta Dental Association and its six member societies: Edmonton, Calgary, Lethbridge, Peace River, Central Alberta and North Eastern Alberta. It was painted by J. B. Taylor, a member of the University's fine arts department. In accepting the painting, Dr. Johns stated that there was no one whose portrait will be more appreciated by the university than that of Dr. Rooney.

A native of Shelbourne, Ontario, Dr. Rooney went to Daysland with his parents in 1906 at the age of 15. He received his D.D.S. from the Chicago College of Dental Surgery in 1911. Following his graduation Dr. Rooney moved back to Daysland, but remained there only six months before moving to Edmonton.

At 69 years of age he still maintains a private practice in the city, and numbers among his patients several third generation families. "I'll still be practising when they reach the fourth," he remarked.

Dr. Rooney's hobbies include hunting, fishing and gardening. He has made extensive trips throughout Canada including the north.



*Edmonton Dentists Honour a Leader. l. to r.
Dr. Walter Johns, Dr. Clarence Husband and
Dr. Art Rooney.*

A long-time member of the Alberta Dental Association, Dr. Rooney served as its president from 1921 until 1931, and again in 1935. He served as a "temporary" secretary from 1935 until 1951, and is due to retire shortly from his present position as secretary-registrar. Dr. Rooney became Alberta representative to the Canadian Dental Association in 1939, and chairman of the board a year later. He became president of the Association in 1943, and served in that capacity until 1947.

During the Second World War, he helped form the Canadian Dental Corps. He was also a member of the Pacific Coast Dental Conference, an association consisting of nine western states, B.C., and Alberta, and of the Western Canada Dental Society.

To top it off, he became a member of the teaching staff of the University of Alberta in 1942, and lectured there for more than 15 years.

In addition to Dr. Johns, other speakers who complimented Dr. Rooney on his many

years of service and commented on years of friendship were: Dr. Andrew Gray of Lethbridge, president of the Alberta Dental Association, who unveiled the portrait, and Dr. William Scott Hamilton, former dean of the faculty of dentistry.

Dr. John William Clay of Calgary spoke on Dr. Rooney's long association with the Canadian Dental Association, while Dr. Clarence Husband of Red Deer spoke on his extra-dental activities and presented him with a camera.

Immediately following the banquet, many congratulatory letters and telegrams addressed to Dr. Rooney were read. Many were from former friend and business associates. One came from as far south as Honolulu.

Among the prominent out-of-town visitors who came to pay their respects, was a former practising dentist in Barrhead and Edmonton, and a friend of Dr. Rooney, Dr. Harry K. Brown of Ottawa, dental consultant to the department of national health and welfare.

BRITISH COLUMBIA

Vancouver and District Dental Society

There was a large turnout at the January meeting when Dr. Orville Wright, the president, wished all a happy new year. The audience stood in silence in memory of Dr. William Rutledge whose death occurred in December.

Two interesting lectures on Complete Mouth Dentistry were given by a former Vancouver dentist, Dr. John Sproule. He is the son of Dr. Walter Sproule, one of Vancouver's most esteemed dentists. Dr. John Sproule left Vancouver to join the teaching staff of the University of Washington Dental School and is now in private practice in Seattle.

He declared that most of the success in full mouth reconstruction comes from doing it constantly yourself. The fine details of preparations for abutments and the other procedures were outlined with colored slides.

Dr. Claude Gardner, study club convener, reported that twelve study clubs are in operation. Most of the 117 members are now advanced in their various fields, and it is difficult to bring in new members who must begin from scratch. Careful consideration must be given to the forming of new groups. The study clubs are now devoting a full day to their meetings instead of the previous evening sessions.

D.H.M.

ONTARIO

Thunder Bay Dental Association

The new executive for 1960 for the Thunder Bay Dental Association has been elected as follows: president, Dr. L. Opaski; vice-president, Dr. G. Bowles; secretary-treasurer, Dr. S. Smith, and immediate past president, Dr. J. Stitt.

S.P.S.

QUEBEC

McGill Student-Faculty Dinner

The McGill Dental Undergraduate Society held their annual Student-Faculty banquet at the Queens Hotel on January 28th.

It was our good fortune to have as guest speaker, Dr. Wesley J. Dunn, past editor of the Canadian Dental Journal and now registrar-secretary of the Royal College of Dental Surgeons of Ontario. Dr. Dunn in his talk touched on some of the areas of interest and concern of our profession which require leadership of the highest calibre; leaders motivated by the highest ideals of professional service, who will in their decisions manifest "the courage to be wrong."

This evening gradually is becoming one of the highlights of the dental year, and congratulations are extended to Mr. Robert MacLellan and his student committee for a well organized and thoroughly worthwhile evening.

Mount Royal Dental Society

The third meeting of the Mount Royal Dental Society was held at the Queen Elizabeth Hotel, Friday, January the 22nd, 1960.

The speaker for the day, Dr. Helmut A. Zander of Ann Arbor, Mich. was introduced by Dr. M. Lang.

Dr. Zander, Head of the Department of Periodontology at the Eastman Dental Dispensary in Rochester, N.Y., formerly professor and Chairman of Periodontology at the University of Minnesota, and Professor of Oral Pediatrics at Tufts University, Boston is widely known for his extensive research and many scientific papers published in professional journals all over the world. His presentation for the morning was:

"Calculus — Its Mode of Attachment to Cementum." Dr. Zander pointed out that calculus attaches to the tooth in one of four ways:

- 1.—By a cuticular attachment to Nasemith's membrane.
- 2.—Irregularities of the tooth surface.
- 3.—To bacterial stains which have penetrated into the cementum and therefore, the cementum must be scraped to remove calculus here.
- 4.—By mechanical retention in areas on the root surface where the cementum has resorbed or flaked off and, in these areas the calculus cannot be completely removed and therefore may form again quite rapidly.

In discussing the morphology, Dr. Zander explained that it is an apatite structure, the same as in bone. It is a living mineral structure which does not occur by accident and has a definite pattern to its microscopic picture, formed by micro-organisms, usually actinomyces-israeli and leptothrix. These organisms grow only in an alkaline environment and the surrounding matrix is one in which mineralization starts. There are periods of rest and new growth, giving a layered structure. To the micro-organism, its world is the mouth, its country is the tooth surface, its atmosphere is the saliva and it is constantly at war with the cells of the tissues which are engulfed in the matrix. On smooth tooth surfaces, experiments have shown, it has the ability to form its own cuticle to aid in attachment, on rough surfaces it attaches without the aid of the cuticle. The tissues react by an outpouring of phagocytic cells through the epithelium to fight the calculus formation. Chemical irritants from the calculus feed the inflammation. The tissue loses out and the calculus creeps along the tooth against the tissue.

In the afternoon, Dr. Zander discussed occlusion, explaining that his fundamental understanding of occlusion is that it is a dynamic entity which includes all the nerves, muscles, joints, etc. He discussed the envelope of motion, pointing out that the border movements of the jaw are specific for each individual and that the end position of the mandible is totally determined by the teeth and their proprioceptors, i.e., the manner in which the teeth come together must be in harmony with the muscles and joints.

In discussing adjustment to occlusion he agreed that trauma can cause tooth mobility or wear facets or weaknesses of the neuromuscular systems. Occlusion should not be adjusted unless there is:

- I —a) Neuro-muscular difficulties or joint disturbances.
- b) Periodontal disease including prosthetics.
- c) Orthodontics.
- d) Unusual wear.
- II—a) Movement of the mandible in two or more directions from first point of contact or hinge.
- b) Non-working side interference.

Dr. Zander then went on to discuss dental pulp, pointing out that it is a highly specialized connective tissue and any cutting of the tooth disturbs the odontoblastic layer causing a vascularization resulting in the cell nucleus being pulled into the dental tubule. Teeth can be prepared, using high speed, with less damage to the pulp than with low speed, if there is low torque and proper

water cooling. For the toilet of the cavity, Dr. Zander suggests washing with Hydrogen peroxide, drying with warm air and using a Zinc Oxide base under the filling.

After an interesting question and answer period, the speaker was thanked by Dr. Gitnick and the meeting was adjourned.

Montreal Dental Club

The 62nd Annual Meeting of the Montreal Dental Club was held in the Queen's Hotel on Thursday, January 21st, 1960, with the President, Dr. D. C. Gordon in the chair. Dr. Gordon introduced two new members of the Club, Dr. I. Cenne and Dr. W. Harnott.

The Secretary, Dr. H. Husolo, read the minutes of the 61st Annual Meeting, following which the Annual reports for the year 1959 were presented.

Dr. D. G. Armstrong, Treasurer of the Club, gave the financial report for the 1959 session.

Dr. D. B. Ward, Chairman of the Fall Clinic, gave his report on the Montreal Fall Clinic held last October. He also recommended several changes by which the effectiveness of this event could be increased.

Dr. C. C. Bourne, Club Historian and Archivist, reported on the activities of the Club and its members.

The President, Dr. D. C. Gordon, presented reports from the Fluoridation Committee and also the committee planning joint meetings with the Mount Royal Dental Society and the Société dentaire de Montréal.

Dr. A. J. Schutz as Co-chairman of the Golf Committee reported on the Spring and Fall Golf Tournaments. He also announced that Dr. C. Asselin and Dr. J. McMullen were taking over the duties of the Golf Committee.

Dr. J. Chamard gave the report of the Insurance Committee as well as the reports from the College of Dental Surgeons of the Province of Quebec, and the Canadian Dental Association.

The President then summed up the year's activities of the Club. He noted that the public relations program tried out at the Fall Clinic was successful, and that he would like to see it a year-round program. Dr. Gordon then thanked all those who had assisted him in the past year and wished the incoming executive every success in the coming year.

Dr. H. Husolo then read the nomination slate for 1960.

Honorary President, Dr. D. C. Gordon; President, Dr. Howard T. Oliver; President Elect, Dr. Wilfred J. Johnston; Secretary, Dr. H. Husolo; Treasurer, Dr. G. D. Armstrong; Historian, Dr. C. C. Bourne.

Directors for a period of two years: Drs. H. J. Smart, A. J. Schutz and D. A. Townsend.



Dr. Howard T. Oliver newly elected president of the Montreal Dental Club.

Directors to complete a term of elected office (one year); Drs. F. L. Burns, S. A. Robinson and J. Vincelli.

Dr. F. Shamy proposed a vote of thanks to the outgoing executive for its most efficient handling of the Club affairs during the past year.

J. D. F.

Société Dentaire de Montréal

December last, la Société Dentaire de Montréal invited its members and their friends to a cocktail party at the beautiful Centre Social de l'Université de Montréal.

Accompanied by their charming wives, the dentists of Montreal met in a very warm atmosphere heralding the Christmas and New Year's spirit.

Among the guests of honour, besides Dr. Thibault and Dr. Lussier, were Dr. D. Gordon, president of the Montreal Dental Club and Dr. D. Steinberg, president of the Mount Royal Dental Society.

This annual party given by La Société Dentaire takes a special character as it is organized to celebrate the Christmas season

and is the main social meeting during the academic year.

In January, at the Université de Montréal, Dr. Onil Hébert gave a paper entitled "Orthodontics—An Every Day Procedure."

C. V.

Montreal Alumni Chapter Alpha Omega Fraternity.

The annual all day seminar of Alpha Omega Fraternity Montreal Alumni Chapter was held on Friday, January 29th, at the main amphitheatre of the Montreal General Hospital. For this seminar, to which all Montreal dentists were invited, we were fortunate in having Dr. Harry Sicher of Chicago on the topic, "Problems of Pain in Dentistry".

Harry Sicher, M.D., Sc.D., is:

Professor of Anatomy, Loyola University School of Dentistry,
Associate Professor of Anatomy, Chicago Medical School,
Associate Professor, Dental Dept., Vienna Medical School,
Author of "Oral Anatomy" and co-author of "Bone and Bones".

Dr. Sicher before restricting himself to the basic sciences was an eminent oral surgeon in Vienna. Thus he has the unique capability of interpreting clinical problems on a didactic basis so that the practitioner is made aware of the anatomical background to his problems.

During the morning, Dr. Sicher discussed the problem of pain as related to the spinal cord and brain. He stated that the field of sensation is complicated by the psychology of the individuals and the threshold of pain is similar in people. Reaction to pain is modified by psychology not physiology. Problems of local anaesthesia and pain were discussed with the suggestion that thicker and more active nerve fibers are difficult to anaesthetize. Referred pain, trigeminal neuralgia, and infections of the maxillary antrum in relation to tooth ache were explained anatomically with many hints as to differential diagnosis.

The afternoon session was taken up in the study of the Temporomandibular joint, its function, muscular control, and pathology. The anatomy of the joints, the part the muscles of mastication play in pathology and joint pain, and the treatment of joint pain were elucidated. Inconsistencies in the interpretation of joint pathology to subjective head symptoms were made evident on the basis of the anatomy of the joints and joint contents. e.g. Costen's Syndrome.

Dr. Sicher was introduced by Dr. George Silver and thanked by Dr. Mervyn Gornitsky.

The Montreal Alumni Chapter of Alpha Omega Fraternity would like to take this opportunity to thank all of our guests who helped to make this seminar so successful.

M. G.

Yorkton, 2 from Prince Albert, 1 from Maple Creek and 11 from Moose Jaw.

Dr. J. Schachter, chairman of the Clinic committee was responsible for arranging for the services of the excellent clinician Dr. Jacobson.

Regina Dental Society

The Regina Society were hosts to a large number of the profession who attended the clinic presented by Dr. Jacobson of Seattle Dental College. Dr. Jacobson is Executive Officer of the Department of Oral Diagnosis, and his clinic was entitled.

1. Practical Roentgenographic Technique and its Anatomic Correlation.
2. Diagnostic Variation in Bone Structure.
3. Roentgenologic Diagnosis of Oral Pathology.
4. Treating Extensively Involved teeth with Amalgam.

In attendance were 36 dentists from the local Society, 15 from Saskatoon, 2 from

Saskatoon Dental Society

Each meeting is largely taken up with reports and discussions in preparation for the joint convention of the Canadian Dental Association and the Western Canada Dental Society in June of 1961. However at the last meeting the Society heard from Drs. B. Bookhalter and Doug Parker, up-to-date reports on the activities of the committees to have the legislation re: Denturists retracted.

L. D. H.

Prince Albert Fluoridates

Fluoridation of Prince Albert's water supply began on January 18th.

City officials hope that the introduction of sodium-silico-fluoride into the water supply will reduce the incidence of dental decay in Prince Albert children.

Simultaneous Translation in French and English at C.D.A. Convention Sept. 1960

The addresses of the essayists and luncheon speakers will be translated simultaneously into French. Addresses in French will be translated simultaneously into English. Translations will be picked up on head sets by the listeners in the same rooms as the speakers.

The presentation by Dr. Paul Geoffrion, Dean of the Faculty of Dentistry, University of Montreal, a feature of the Scientific Displays and Demonstrations on Tuesday afternoon of the Convention, will be given in French and translated simultaneously into English.

GENERAL NEWS

Northwest Territories

The council of the Northwest Territories sat down quietly the other day and decided to fluoridate drinking water in centres under its jurisdiction.

Thus do primitive Indians and Eskimos of the northland acquire the benefits of science which are still ignored in Vancouver, Canada's third largest city.

The council for the Territories was able to make a calm study of the caries in their dependents' teeth, the recommendations of qualified medical and dental authorities for improving that state; and act. They did not have to battle emotion or prejudice, and convince a few hundred thousand voters that the doctor knows best.

All they had to do was find out what ought to be done, and do it.

Things seem refreshingly direct in the Territories.

Askov Dental Demonstration Shows Effectiveness of Fluoridation

Fluoridation of community water supplies is the most effective and economical health measure in reducing incidence of dental caries. That conclusion is contained in a report on the recently completed 10-year Askov, Minn., Dental Demonstration. The project was designed to show benefits that could be obtained for school and pre-school children through a community dental health program. The report continues that topical fluoride treatment should be considered where fluoridation does not exist. Fluoridation was one of five "efforts" found in the study to be essential to good dental health. The other four are a sound dental health education programme; regular dental examinations and corrective services; timely and proper mouth hygiene, and control of the intake of sweets. The report further notes that a community dental health programme is effective only to extent that the educational phase motivates the individual to apply and practice knowledge acquired.

New Fluoridation Leaflet

A new leaflet, "Fluoride Helps Prevent Tooth Decay," has been published by the Bureau of Dental Health Education. The four-page leaflet discusses briefly fluoridation of public water supplies, topical application of stannous or sodium fluoride and the taking of fluoride in tablet or other form. It is pointed out that a dentist or physician should supervise the taking of fluoride by an individual. Leaflet is available from Order Department, A.D.A., 222 East Superior St., Chicago 11, Illinois, in quantities of 25 for 50 cents; 50 for 90 cents, and 100 for \$1.60.

A Challenge To Current Graduates

A challenge to this year's dental graduates to do their part in increasing the production and distribution of dental service will be contained in an article in the special March issue of The Journal of the American Dental Association.

The challenge will be issued by Dr. Paul H. Jeserich, president of the Association, who warns graduates:

"You must be prepared not only to accept the responsibility of improving the quality of dental service but of increasing its production and distribution as well.

"As the Association stands on the threshold of its second century, it recognizes the need for a tremendous increase in the efficiency of dental practice in order to extend more dental health care to more people . . ."

Cholesterol

Stress-induced overactivity of adrenal glands may be an answer to how the body translates high-tension living into excessive amounts of cholesterol in the blood, according to Drs. Daniel Steinberg and Eleazar Shafir, National Heart Institute. They have observed that high concentrations of cholesterol can be produced in a dog's blood if the animal is given repeated doses of adrenalin. The effect is obtained only if the dog has a normal supply of cortisone, indicating that the two compounds apparently work together to produce the effect.

A New Journal to Bridge the Gap between Researcher and Clinician.

A new scientific journal in the field of dentistry to be published by the University of Chicago Press will seek to bridge the gap between the researcher and the clinician. It will be titled, "Dental Progress."

The Institute of Dental Research of the U. S. Public Health Service has made a five-year grant of \$173,000 to the University of Chicago to finance the undertaking. Rollin D. Hemens of the University of Chicago is executive editor, and Dr. George W. Teuscher, dean, Northwestern University Dental School, has been selected as editor.

Dr. Teuscher and Mr. Hemens met January 22 at the Industrial Relations Center of the University of Chicago with the editorial board of the new journal to formulate specific plans for publication.

"The practicing dentist cannot always take the time to keep up with original research, although new developments in dentistry are of great concern to him. Also, there is often a time lapse between research results and their publication," Dr. Teuscher said.

"We hope to solve these problems to some extent by publishing articles of sufficiently broad interest to appeal to the clinician, yet scientific enough to attract the research scientist. We also plan, insofar as possible, to provide prompt publication of articles, often in the next issue after acceptance," he said.

"We visualize this as a magazine of interest to the clinician and researcher publishing original reports of basic investigations, articles about scientific researches, and background material for today's progressive dentist and tomorrow's dentistry," he said.

"Although the articles are expected to be primarily on clinical research, the pages are also open to reports of original research, whether clinical or basic, of interest to the progressive dentist," he added.

The first issue of the quarterly journal is scheduled to appear in mid summer. Planned as a 64-page magazine, size 8¼ by 11 inches, the journal will carry advertising. In addition to research articles, it will include progress reports of original investigations and reports of completed investigations.

Members of the editorial board, in addition to Dr. Teuscher, are: Dr. J. Roy Blayney, professor emeritus of dental surgery, and former director, Zoller Dental Clinic, University of Chicago; Dr. Albert Dahlberg, a practicing dentist, who is also research associate, Department of Anthropology and Zoller Dental Clinic, University of Chicago; Dr. Maurice J. Hickey, dean, School of Dentistry,

University of Washington. Also Dr. Robert G. Kesel, professor and head, Department of Applied Materia Medica and Therapeutics, School of Dentistry, University of Illinois; and Dr. George C. Paffenbarger, American Dental Association research associate, National Bureau of Standards.

Educator Stresses Research

Dr. Reidar F. Sognnaes, professor of oral pathology and acting dean of Harvard School of Dental Medicine, has set forth a three-pronged approach to achieving the goal of dental health which emphasizes importance of research. Dr. Sognnaes' thesis, outlined in an article called "Dentistry at its Centennial Crossroads" in the Dec. 18 issue of Science magazine, includes the following steps:

Step number one is to implement the research training for dental scientists. This requires substantial long-term support. To get this under way, the federal government must step in with support specifically earmarked for the training of teacher-researchers, until dental schools come to attract a greater share in endowments by private foundations. Among the 400 philanthropic foundations listed in American Foundations and Their Fields, six are already specifically naming dentistry as being among their major aims. The Kellogg Foundation, one of these, now supports the Commission for the Survey of Dentistry.

Step number two is to enable properly trained dental scientists to pursue basic research on a long-term basis rather than be confined to narrow, short-term projects.

Step number three is for this new breed of dental scholars and investigators to extend and deepen their collaboration with scientists and experts in other fields, in situations ranging from laboratory research to "chair-side" and bed-side patient care.

Congress in Pedodontics

First Pan American Congress in Pedodontics was held February 21-27 in Bogota, Colombia, in conjunction with the third reunion of the Pan American Council of Dentistry for Children. Meetings were organized by the Colombian Society of Pedodontics. Interest was shown in obtaining exhibits and films on dentistry for children, preventive orthodontics, children's public health problems, treatment of handicapped children and cleft lip and palate treatment.

IN MEMORIAM

Robert Cyril McQuillan—Dr. Robert Cyril McQuillan of Edmonton, died on December 30th, 1959. He was 54.

Dr. McQuillan was born in Dublin, Ireland and went to Alberta with his parents at the age of 6, settling in Warwick. Following his graduation in Dental Surgery from the University of Alberta in 1931 Dr. McQuillan commenced practice in Athabasca. In 1936 he moved to Edmonton where he practised until his death. He was a member of the Alberta Dental Association.

He is survived by his widow; one son, Terry; two daughters, Susan Jane and Mrs. L. R. Fincham; two grandchildren; his mother, Mrs. J. McQuillan, and a sister, Mrs. W. Perrie.

George Oliver Duprau — Dr. George Duprau of Deep River, Ontario died on January 24th. He was 85.

Dr. Duprau was born at Osnabrook Centre near Morrisburg and received his early education from Albert College and later received his B.A. from Victoria College, Toronto. He graduated from the R.C.D.S. of Ontario in 1902 and set up practice in Belleville, Ontario where he practiced for 55 years. At the time of his retirement in 1957 he was one of the oldest practicing dentists in Canada. When he retired he moved to Calgary but one and a half years ago he moved to Deep River.

Dr. Duprau is survived by his sister, Alice; and two daughters, Maxine and Betty. He was the last of his family.

Thomas Elmer Clifton Butler — Dr. Thomas Elmer Clifton Butler of Toronto, died on January 19th.

Dr. Butler was born in 1885 near Aurora, Ontario. He graduated from the R.C.D.S. of Ontario in 1904 and practised in Toronto.

In 1954 he was made an Honorary Member of the R.C.D.S. He was a past president of the Academy of Dentistry Toronto, was a former director of the Y.M.C.A., and took a prominent part in the Independent Order of Odd Fellows and in Masonry. He was a past master of the Metropolitan Lodge and St. Alban's Chapter and member of the Scottish Rite.

Surviving are his son, Dr. R. R. Butler, and two daughters, Mrs. A. Marshall and Helen.

A. Chamberland — Dr. A. Chamberland of Montreal, died recently.

Leslie Newton Hobbs — Dr. Leslie Newton Hobbs of Sudbury, Ontario, died on January 10th, 1960.

Dr. Hobbs was born in Harristown, Ontario and received his early education at Harriston, Kenora, Chapleau and Toronto. Following graduation from the University of Toronto in 1937 he practised in Millbrook until 1941 and from 1942 to 1960, in Sudbury. He was connected with the Sudbury Clinic.

Dr. Hobbs is survived by his widow, Hilda; his parents, Mr. and Mrs. T. Elliott; a sister, Laura, and two brothers, Dr. Maurice and Charles.

George Pollock — Dr. George Pollock of Thorold, Ontario, died on February 1st, 1960. He was 65.

Dr. Pollock was born in Aurora, Ontario in 1895 and received his early education in Toronto. He graduated from the R.C.D.S. of Ontario in 1920 and had practised in Thorold since that time.

From 1916 to 1918 Dr. Pollock was a private in the C.A.D.C. overseas. He was a member of the Thorold Branch Canadian Corps; was on the Thorold Board of Education from 1932 to 1935 and was elected chairman from 1933 to 1934, and was also a member of the Mountain Lodge A.F. and A.M.

Dr. Pollock is survived by his widow Margaret; two daughters, Donna and Gwen; one brother, Harry, and a sister, Mrs. H. Adams.

Lorne Reginald Macdougall — Dr. Lorne Reginald Macdougall of Toronto, Ontario, died on January 12, 1960.

Dr. Macdougall was born at Arnprior, Ontario in 1887. He graduated from the R.C.D.S. in 1911 and practised in Saskatchewan until 1914. From 1914 to 1960 he practised in Toronto.

Surviving are his widow, Kathleen; three sons, Donald, Lorne and Stuart, and two sisters, Gertrude and Flo.

Donald Davidson — Dr. Donald Davidson of Kitchener, Ontario, died on August 22nd, 1959.

Dr. Davidson graduated from the Royal College of Dental Surgeons of Ontario in 1894. He was made an Honorary Member of the R.C.D.S. in 1944.

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1960	Ottawa, Ontario	Sept. 25th-28th
1961	Saskatoon, Saskatchewan	June 4th-7th
1962	Vancouver, British Columbia	June 3rd-6th
1967	Toronto, Ontario	May

(Centennial Celebration
of Dentistry in Canada)

FUTURE EVENTS

Date	Function	Location	Officer	Address
May 12, 13, 14, 1960	B.C. Dental Association Convention	Empress Hotel, Victoria, B.C.	Dr. W. Ross Upton,	217 Medical-Dental Bldg., Vancouver 1
May 15-18, 1960	Ontario Dental Association Convention	Royal York Hotel, Toronto, Ont.	Mrs. A. Durham,	230 St. George St., Toronto 5, Ont.
June 5, 6, 7, 8, 1960	First Atlantic Provinces Dental Convention	Admiral Beatty Hotel, Saint John, N.B.	Dr. A. D. Bona,	82 King St., Saint John, N.B.

ALBERT EINSTEIN COLLEGE OF MEDICINE, DEPARTMENT OF DENTISTRY

A two-day seminar will be presented on "Premedication, Co-Medication, and Supportive Therapy in Dental Practice" — June 9, 10, 1960. Class limited. Fee \$30.

For further information write: Albert Einstein College of Medicine, Dept. of Dentistry, Director of Postgraduate Studies, Eastchester Rd., and Morris Park Avenue, Bronx 61, New York, U.S.A.

"Prize Dr. h.c. René Jaccard"

The "Prize Dr. h.c. René Jaccard" will be attributed for the third time during the XVI Congress of The "ARPA Internationale" in Vienna (September 17-22, 1960). The conditions of candidature for the prize are as follows:

a) Any original scientific work concerning periodontal disease published or performed between 1958 and 1960 can be sent in.

b) It is not necessary for the author to be a member of the ARPA.

The proposed papers for candidature shall be sent, by registered post, in six exemplars, to the president of the "ARPA Internationale" (Prof. A. J. Held, Institut de médecine dentaire, 30 rue Lombard, Geneva, Switzerland) at latest the 15th of May 1960.

The prize (or prizes) shall be delivered during the XVI Congress of the "ARPA Internationale", in Vienna. The charter of the "Prize Dr. h.c. René Jaccard" is at the disposal of any person interested at the General Secretary's Office: Sir J. Matthey, 2 rue Bartholoni, Geneva, Switzerland.

OTHER INFORMATION CONCERNING DENTAL MEETINGS OUTSIDE CANADA IS AVAILABLE AT C.D.A. HEADQUARTERS.

Discussion en quatre points sur la dentisterie pour les enfants*

par W. H. Feasby, Hamilton, Ontario.

Cette communication se propose de suggérer des méthodes pour prodiguer aux enfants des services dentaires qui soient à la hauteur de nos obligations professionnelles envers la population et dignes d'une rémunération convenable; elle comporte quatre points qui couvrent toute la pédodontie, à savoir:

- 1) la place que doit occuper la pédodontie dans une clientèle familiale;
- 2) les divers moyens d'aborder les enfants;
- 3) l'examen de routine à l'aide de la radiographie;
- 4) quelques cas typiques de traitements.

1) *La place que doit occuper la pédodontie*
Eshleman, en parlant des responsabilités du dentiste envers la société, déclare:

"Nous devons faire de notre mieux pour le plus grand nombre d'individus possible. Tout professionnel, à la mesure de ses capacités, a le devoir strict de collaborer à cette oeuvre." Toutes nos activités doivent tendre vers ce but.

Le dentiste en clientèle privée se consacre surtout à l'aspect curatif d'un programme de santé dentaire et, de ce fait, le dentiste de famille a une besogne immense à abattre: il assume la responsabilité de la plus grande somme des traitements.

On sait que les maladies dentaires sont généralement chroniques, qu'elles s'ajoutent les unes aux autres et que, à la lumière des connaissances actuelles, elles ne peuvent pas toutes se prévenir. La carie dentaire, par exemple, qu'on laisse évoluer mène à la perte des dents. L'extraction prématurée des dents occasionne des malocclusions. Les malocclusions, à

* Conférence présentée par la Section de Dentisterie pour les Enfants de l'Association dentaire canadienne, au Congrès National de l'A.D.C., tenu à Montréal, en octobre 1958.

leur tour, favorisent les périodontopathies et une récrudescence de carie. Ainsi, les trois principales pathologies dentaires, la carie, les malocclusions et les maladies gingivales sont dépendantes les unes des autres et forment un cercle vicieux inextricable. McLaren, en parlant des maladies qui s'aggravent graduellement, dit: "Il faut à tout prix arrêter leur progrès le plus tôt possible."

Le Bureau des Gouverneurs de l'Association dentaire canadienne a saisi toute l'importance de cette question dans sa Déclaration de Principes au sujet de l'Assurance-Santé. Le principe No 19 touchant aux traitements dit que "Au début, le plan ne devrait s'intéresser qu'aux enfants, parce que les membres de la profession dentaire ne sont pas assez nombreux pour traiter tout le monde; car, à peu près chacun des habitants de ce pays ont besoin de traitements."

Les conditions actuelles et ces déclarations imposent à la profession, collectivement et individuellement, l'obligation de se préoccuper des problèmes dentaires des jeunes Canadiens. Des statistiques récentes montrent que le tiers de notre population totale se situe en bas de quatorze ans. Cela veut dire que, pour faire notre devoir, il faudrait consacrer aux enfants le tiers de nos activités. Des enquêtes ont prouvé que, pour atteindre cette proportion, plusieurs cabinets de dentistes devraient augmenter le temps réservé aux enfants. Les dentistes, pour plusieurs raisons, n'aiment pas traiter les enfants et on en a une preuve dans le peu d'attrait qu'offrent, au cours des congrès dentaires, les communications scientifiques traitant de pédodontie. Deux raisons expliquent cette attitude en face d'un problème aussi aigu et aussi vaste.

La première, c'est l'ignorance. Ce n'est que récemment que la pédodontie a pris une place importante dans le curriculum d'études dentaires de nos facultés. Un grand nombre de dentistes n'ont pas reçu une formation adéquate dans ce domaine. Les dentistes de famille, en général, ne saisissent pas toute l'importance des soins

donnés dans le jeune âge; ils ne comprennent pas les enfants et les problèmes qu'ils suscitent.

L'autre facteur est d'ordre économique. Les dentistes pensent que les parents ne veulent pas payer ce que valent de bons traitements ou ils se sentent incapables de prodiguer des soins qui justifient des honoraires identiques à ceux perçus pour d'autres genres de traitements. Cette mentalité disparaît en éduquant les parents et les dentistes. Ce second facteur se confond donc avec le premier, puisqu'il se base lui aussi sur un manque de connaissances.

2) *Le traitement des enfants*

La pédodontie est la spécialité la moins spécialisée. Elle suppose la compréhension de la psychologie d'un être humain qui ne juge pas les choses avec des yeux d'adulte. Elle est une science dynamique qui entrevoit la quatrième dimension d'un organisme en plein épanouissement. La pédodontie, de plus, requiert les mêmes standards cliniques que ceux qui s'appliquent aux adultes. Je crois qu'elle constitue la branche la plus intéressante de toute pratique générale et surtout d'une clientèle de famille.

La première difficulté du praticien quand il se trouve en face d'un enfant est de gagner sa confiance. Il y a peu de littérature scientifique qui traite de ce problème; néanmoins, les dentistes s'en tirent assez bien. Les enfants auxquels on doit surtout s'intéresser sont ceux d'âge pré-scolaire, c'est-à-dire ceux qui ont de trois ans et demi à cinq ans. Ces enfants peuvent souffrir de lésions buccales considérables et ils sont assez raisonnables pour coopérer aux traitements. Ils sont assez jeunes pour illustrer la valeur de la prévention et des traitements précoces.

Le dentiste qui intègre dans sa clientèle un nombre appréciable d'enfants concilie trois facteurs différents qui ont entre eux des rapports étroits: l'enfant, les parents et lui-même. Finn a souligné cette idée, en disant: "Si nous voulons avoir des enfants qui soient de bons patients, nous devons d'abord instruire les parents. Un dentiste qui néglige de le faire n'exploite

pas tous les moyens pour gagner la confiance de l'enfant." Le dentiste de famille peut facilement connaître la mentalité des familles qu'il traite et éduquer les parents. Les parents, de cette façon, feront traiter jeunes leurs enfants et grâce aux conseils reçus, les amèneront au cabinet dentaire dans un meilleur esprit.

Wolff a dit que "les dentistes ont plus de difficulté à contrôler les parents que les enfants eux-mêmes". Le dentiste doit convaincre les parents de la nécessité de la dentisterie infantile; ce message est accepté de bonne grâce s'il est transmis avec sincérité et conviction. Il faut conseiller aux parents de ne pas tenter de décrire à leurs enfants ce qui se passera chez le dentiste et de ne pas attacher d'importance aux traitements: cette pseudo-préparation psychologique ne sème que crainte et appréhension. Il ne faut rien cacher au sujet des visites au dentiste et en faire une course de tous les jours, comme si on se rendait au magasin pour acheter une paire de chaussures. Il ne faut pas s'attendre à ce que l'enfant prenne plaisir aux traitements de ses dents; d'autres sorties sont certes plus agréables! Mais, il acceptera volontiers cette nouvelle expérience qui le fait entrer, en dehors de son foyer, dans le monde des adultes.

Certains dentistes qui ont beaucoup de succès auprès des enfants ne permettent pas aux parents d'assister aux séances de traitement. Et ils ont raison. Un enfant s'énerve facilement quand il se trouve en présence de deux adultes qui cherchent à l'influencer. Un climat de tension se crée quand le père ou la mère répète à leur enfant les paroles du dentiste; quand l'enfant, par expérience, se sert de ses parents pour retarder l'échéance du traitement; quand le dentiste n'est pas le maître absolu de la situation. Le dentiste seul doit contrôler la marche des opérations et exercer une influence sur le patient. Ce rapport s'établit plus rapidement et d'une façon plus satisfaisante quand le petit patient n'a que le dentiste comme appui dans un environnement nouveau.

Le dentiste de famille trouve facilement l'occasion d'instruire le père sur la valeur des traitements précoces. Sa coopération lui est acquise directement sans l'intermédiaire parfois partiel de la mère. Cette collaboration paternelle, enthousiaste et totale, est précieuse à plus d'un point de vue, dont le moindre n'est pas l'appui financier à un programme de santé dentaire en faveur des enfants. Le père se rend rapidement à l'évidence des avantages péculiaires et préventifs des traitements prodigués à un âge précoce.

L'enfant lui-même doit intéresser le dentiste. Celui-ci doit le considérer d'abord comme une personne distincte douée de toute la gamme des émotions normales. La crainte éprouvée par l'enfant et qu'il manifeste de toutes les façons imaginables doit surtout retenir l'attention du praticien. Mais, en général, elle n'a pas l'importance qu'on lui accorde. Elle est un mécanisme normal de défense. Elle s'extériorise par des cris, des entêtements ou des fougues. On peut la contrôler facilement, quand on se rend compte qu'elle est une réaction normale à un milieu nouveau pour l'enfant. Elle s'apaise d'elle-même à mesure que le petit patient se fait à l'entourage et s'intègre dans cette nouvelle ambiance. Un enfant s'énerve facilement et cette réceptivité aide le dentiste à trouver une solution qui s'adapte à toutes ses manifestations. Le jeune patient ne demande pas mieux que d'être mis au courant de la façon dont les gens se comportent chez le dentiste et se soumet de bonne grâce aux règles qui lui sont expliquées clairement. Il s'intéresse à tout ce qui est nouveau et reçoit avec plaisir les renseignements et les explications qu'on lui fournit. Son plus grand désir est d'être traité comme une grande personne et il accepte avec joie les félicitations sincères qu'on lui prodigue. Il devient rapidement un bon patient, quand il se sent accepté et quand il réalise que sa collaboration est appréciée.

Le dentiste demeure cependant le personnage le plus important de cette trilogie. On a prétendu qu'il y a plus de dentistes qui ont peur des enfants que d'enfants

qui ont peur du dentiste. Cette observation montre que parfois le dentiste manque de confiance en lui-même, qu'il ne peut contrôler une situation donnée et qu'il se sent incapable de traiter des enfants. Cette attitude a la même origine que la crainte de l'enfant: l'ignorance et la peur de l'inconnu ou de ce qui est mal compris. Cet état de chose n'a plus sa raison d'être; des cours post-universitaires et des publications fort bien faites y pourvoient.

Le dentiste qui a confiance en lui et en pleine possession de tous ses moyens est calme et effectif. Il est gentil, posé et ferme, quand les circonstances l'exigent. Il est sincère, honnête et franc dans ses paroles et ses gestes. Il accepte avec patience les manifestations enfantines. Jamais il ne se mettra en colère. Les enfants ressentent profondément la présence des adultes dans leur entourage; ils se plaisent à les imiter; ils suivent leur exemple. Le dentiste, par sa bonne humeur, sa gentillesse et sa fermeté s'assure d'avantage la collaboration de ses petits patients qu'avec tous les jouets, tout l'ameublement spécial et tous les accessoires extraordinaires qui ont été suggérés. Tout ce bagage de pouponnière intéresse plus les parents que les enfants!

Le dentiste, pour réussir avec les enfants, doit créer rapidement un climat favorable. Pour établir cette atmosphère, le praticien appellera l'enfant par son prénom, le félicitera sincèrement, lui sourira quand tout va bien pour lui insuffler plus de bravoure et pour lui montrer qu'il partage ses problèmes et ses ennuis. Ce climat de coopération se détériore rapidement par des reproches, des colères, des imprécations. Le dentiste ne doit jamais faire de comparaisons malveillantes ou montrer qu'il se désintéresse des peines ou du bien-être de son petit patient. Le dentiste, pour établir ce contact avec les enfants—et là est tout le secret du succès de ses échanges avec eux—doit observer les mêmes principes qui guident son comportement avec les adultes. On attache trop d'importance aux questions psychologiques des enfants. Les dentistes qui ne traitent pas les en-

fants en parlent beaucoup; ceux qui reçoivent des enfants à leur cabinet ne soulèvent à peu près jamais le problème. Ces conseils s'adressent au dentiste qui ne traite pas ou peu d'enfants et qui veut prendre sa part de responsabilité dans ce domaine social.

3) *Examen de routine à l'aide de radiographies*

On sait depuis longtemps que la valeur des traitements dentaires pour tous les patients, jeunes ou vieux, est en rapport avec l'examen et le plan de traitement conçu en vue de la réhabilitation totale. Il serait bon qu'on parle ici d'une phase de l'examen dentaire des enfants qui est souvent négligée: il s'agit de l'examen radiologique. Lozier et Morgan ont dit que toutes les pathologies rencontrées chez les adultes peuvent se retrouver chez les enfants.

Sweet a trouvé qu'au moins 20 pour cent des enfants présentent des anomalies ou des maladies que seule la radiographie peut déceler. Morgan a déclaré que "les radiographies coronaires ne donnent pas assez de renseignements parce qu'il nous faut voir plus que les faces proximales". Cela veut dire que chez les enfants, le dentiste doit chercher aussi loin et aussi minutieusement que chez les adultes.

Il ne faut pas cependant se laisser emporter par l'enthousiasme et minimiser les dangers de la radiographie. La littérature scientifique et profane a récemment fait grand état des dangers de la radiation ionisante. Le Comité des Recherches de l'Association dentaire canadienne a fait une déclaration à ce sujet et en voici le premier paragraphe:

"La valeur des Rayons-X comme adjuvant au diagnostic dentaire n'est plus à prouver. Les appareils de radiographie deviennent de plus en plus populaires et le public de plus en plus exposé aux radiations étrangères aux Rayons-X. A cause de ces deux facteurs, la profession dentaire se doit, pour protéger ses membres et leurs patients, de revoir les conditions dans lesquelles s'utilisent les Rayons-X, afin de minimiser le plus possible leurs dangers." (Délibérations de l'A.D.C., 1958,

rapport du Comité des Recherches, page 178.)

L'American Academy of Oral Roentgenology a aussi préparé une déclaration sur le même sujet et en voici un extrait: "Si la profession dentaire ne prend pas elle-même les mesures de prudence qui s'imposent dans l'usage qu'elle fait des Rayons-X, le gouvernement pourrait formuler des règlements pour contrôler l'usage des appareils radiographiques dentaires."

Répétons diverses méthodes de diminuer l'exposition aux rayons:

- A) pellicules rapides
- B) augmentation du voltage (KVP)
- C) amélioration des techniques pour développer les films
- D) filtres d'aluminium
- E) emploi d'un filtre de plomb.

La façon la plus pratique de diminuer l'exposition aux rayons est d'employer des pellicules ultra-rapides. On a calculé que l'emploi de ces films diminue de 66 à 80 pour cent la radiation à laquelle sont exposés les patients avec des pellicules ordinaires. Aussi, le dentiste devrait, pour des raisons autres que celles de la radiographie elle-même, utiliser une technique qui lui permette des films les plus rapides possibles. De plus, des pellicules rapides règlent la question des haut-le-cœur et des inconvénients de la pose, spécialement chez les jeunes enfants.

La technique que nous décrirons comporte un courant de 10 milliampères et un kilovoltage de 70 et les pellicules les plus rapides dans chaque grandeur. Le temps de pose nécessaire pour un examen comprenant huit films, à une distance de 8 pouces, est d'une seconde et quart.

Les objections qu'on fait actuellement à la radiographie soulèvent les dangers auxquels elle expose les glandes génitales et le degré d'accélération dans les mutations qu'elle engendre. Richards a prouvé que l'examen radiologique des adultes pour lequel on se sert de quatorze films ultra-rapides représente une durée de 5.9 secondes; durant cette période, les rayons donnent une dose de .45 milliroentgens (dose subie tous les jours de sources na-

turelles). Jinks a compilé un rapport intéressant sur la diminution des doses de radiation pour les enfants. Il a réussi, en se servant de la technique des huit films et en utilisant les méthodes pour abaisser la radiation, à une dose de .16 milliroentgens (cinq fois plus petite que celle que tout individu reçoit tous les jours, dans la vie courante).

On peut donc éliminer les dangers des Rayons-X en s'en servant avec prudence et à bon escient.

Les enfants, vers l'âge de trois ou quatre ans, commencent à prendre leurs responsabilités et à collaborer chez le dentiste. C'est aussi à cet âge qu'ils ont ordinairement besoin de traitements assez longs. Nous discuterons d'une technique utilisée surtout chez les enfants d'âge pré-scolaire.

Parlons de la mentalité des enfants d'âge pré-scolaire. Ils sont remuants et ne peuvent pas rester immobiles bien longtemps. Ils sont agités à leur première visite et sont portés à vomir quand on prend des radiographies. Leur petite bouche est sensible et on ne peut compter sur eux pour tenir les films avec leur doigt comme les adultes. Aussi la technique suggérée par McBride est-elle très utile pour obvier à ces inconvénients. Elle convient à l'enfant et permet d'examiner toutes les dents et les tissus environnants. Grâce à cette méthode, on emploie moins de films et on réduit le temps d'exposition. On utilise ces pellicules la bouche fermée; l'enfant se sent plus à l'aise et les tolère sans effort. Des films d'enfants servent pour les molaires et des films ordinaires, placés sur un plan occlusal, pour les incisives.

Voici en détail la technique McBride: les dents antérieures du maxillaire supérieur sont radiographiées avec des pellicules ordinaires; ces films sont placés sur un plan occlusal et le tube dirigé de haut en bas; son grand axe est transversal et projette environ 2mm. du côté labial. Le rayon est sur un plan médian et dirigé en bas, vers le centre du film, à un angle de 60° du plan occlusal. La radiographie couvre toutes les dents antérieures, leur région apicale et les couronnes des in-

cisives permanentes. Les dents apparaissent à leur volume normal. Cette technique simplifiée convient aux enfants les plus jeunes, même à ceux dont les dents antérieures sont traumatisées. On procède de la même façon pour le maxillaire inférieur. Le patient est penché en arrière et le cône de l'appareil sert de tangente pour fixer l'angle incident qui doit être, là encore, de 60° du plan occlusal. Les résultats se comparent à ceux du maxillaire supérieur. Les parents sont émerveillés d'apercevoir les dents permanentes, des années avant leur éruption. Les traitements précoces et préventifs acquièrent ainsi plus de sens quand ils sont illustrés par des radiographies.

On radiographie les dents postérieures avec des films d'enfants tenus en place à l'aide de supports en plastique. On peut procéder ici de diverses façons. Il vaut mieux cependant de faire mordre l'enfant sur les blocs de plastique pour tenir le film en place. Le film est ainsi plus solide que s'il est maintenu par le patient ou par le père ou la mère. Le support, quand il est mis en bonne position, est parallèle à la face buccale des dents. Il est alors facile de placer le tube parallèle au support et de diriger, sans superposition, le rayon central entre les points de contact. L'angulation verticale est de 8 degrés (plus) par rapport au plan occlusal. La pellicule montre les deux molaires primaires, la plus grande partie de la canine et la place occupée par toutes les dents permanentes dans la région. Il est à remarquer que les films permettent un diagnostic facile et qu'ils servent dans leur totalité; les coins ne sont pas tournés. On fait de même pour les dents postérieures du maxillaire supérieur: on dirige le rayon central à un angle de 40 degrés du plan occlusal. Les résultats ne sont pas aussi bons au point de vue diagnostic, à cause de l'angulation qui est nécessairement considérable, mais ils sont néanmoins meilleurs que ceux qu'on obtient avec les films coronaire. Toutes les dents permanentes de la région apparaissent clairement sur le film. Les pellicules coronaire doivent être aussi des films d'enfants et le rayon central dirigé

vers le bas, à un angle de 10 degrés. Ils donnent une image précise de la chambre pulpaire et complètent l'examen entrepris par les films postérieurs de la mandibule et du maxillaire supérieur. Ces films sont d'une grande utilité pour la dentisterie opératoire, mais on sait par expérience que les plus jeunes enfants ne les prennent guère. Il faut souligner ici que les petits patients qui sucent leur pouce ont rarement des haut-lè-cœur quand on place des films dans leur bouche. Ces nausées sont des réflexes que peuvent généralement se contrôler par un effort de volonté.

L'utilisation répétée de cette technique nous permet d'étudier en particulier certains problèmes. Ce qu'on note d'abord, c'est le contour des surfaces proximales d'émail. Le film coronaire révèle des caries s'étendant de la face distale de la canine jusqu'à la face distale de la dernière molaire. On doit classer, dans des dents susceptibles à la carie, tout défaut d'émail comme étant une carie. La couche d'émail parfois épaisse peut cacher une carie et cette cavité peut être beaucoup plus profonde que ne le montre la radiographie. On découvre malheureusement chez des enfants de quatre ans et demi des caries proximales logées souvent aux huit surfaces proximales des molaires.

On a déjà dit que l'examen aux Rayons-X découvre de 40 à 50% plus de carie que l'examen clinique. Finn préconise la découverte précoce des caries chez les enfants, car, dit-il, si on attend que les caries proximales soient visibles à l'examen clinique, on met en jeu l'intégrité de la dent.

La radiographie permet aussi de contrôler la présence ou l'absence des dents permanentes et ce renseignement est important. Le décompte des dents doit être la première chose à faire au cours d'un examen aux Rayons-X; il faut vérifier le nombre des dents qui sont encore dans les maxillaires. L'absence de prémolaires est fréquente. On peut constater l'absence de certaines dents. On peut aussi projeter des traitements pour un avenir lointain en se rendant compte de cette anomalie congénitale.

L'état des dents primaires à leur apex a beaucoup d'importance. Ce genre d'examen donne des renseignements précieux. On peut apercevoir les rapports qui existent entre des pathologies apicales de dents primaires et les bourgeons des dents permanentes. On remarque tout particulièrement l'envahissement du follicule par l'infection apicale. La morphologie de la partie coronaire de la chambre pulpaire est à noter. Les molaires inférieures surtout ont souvent des prolongements dont il faut tenir compte pour la dentisterie opératoire. Dans la première petite molaire inférieure, la pulpe se rend assez haut sous la crête transversale de dentine entre le cuspe mésio-buccal et le mésio-lingual. Cette anomalie nous empêche souvent d'inclure le sillon mésial dans la préparation d'une cavité disto-occlusale ordinaire.

On découvre fréquemment des dents permanentes qui sont en malposition et qui s'engagent mal pour faire leur éruption. Ces cas doivent être décelés tôt et ils ne sont pas aussi rares qu'on le croit. Nous n'avons qu'à nous servir des instruments mis à notre disposition. Nous ressemblons, si nous ne le faisons pas, à ce bûcheron du fond des bois interviewé à la télévision, au cours d'un programme de questions. "Ouah, dit-il, chez-nous, on ne connaît rien! Et on n'y pense même pas!"

4) Quelques cas typiques de traitement

Ralph MacDonald a déjà écrit "qu'un des problèmes les plus graves auquel un dentiste ait à faire face est de traiter une dent primaire ou une jeune dent permanente dont la pulpe est exposée par la carie." On a suggéré plusieurs traitements pour ces cas: coiffage de pulpe, curettage de la pulpe, amputation, pulpotomie et extraction. Un grand nombre des traitements entrepris pour guérir la pulpe vivante d'une dent primaire ou d'une jeune dent permanente ont échoué parce qu'on a mal jugé de la vitalité du tissu pulpaire ou de la résistance physique de l'enfant. On ne peut se fier entièrement aux appareils électriques pour jauger les

modifications inflammatoires ou dégénératives qui se produisent dans le tissu pulpaire. La radiographie nous donne de meilleurs renseignements, mais elle peut aussi nous induire en erreur. Elle ne nous montre souvent pas exactement la proximité de la lésion de carie avec la chambre pulpaire. On croit voir parfois une zone de dentine saine ou de dentine secondaire entre la carie et la pulpe; mais il s'agit souvent d'une couche mal organisée de substance calcifiée et cariée recouvrant une pulpe dans un état avancé d'inflammation. On expose la pulpe en enlevant la dentine cariée, quoique la radiographie montre une certaine épaisseur de dentine saine. Les rayons-X, de plus, ne montrent pas une infection périapicale, à son début. Par contre, la radiographie nous donne d'autres renseignements plus sûrs. On remarque parfois dans la pulpe, dans le voisinage de lésions de carie, de petites masses de tissu calcifié. Cette découverte a une grande importance au point de vue diagnostic. Elles ne sont pas des nodules pulpaire, parce qu'elles ont une forme amorphe et irrégulière et elles n'ont pas la consistance de dentine. Histologiquement, on les associe à des modifications dégénératives du tissu pulpaire et à des poussées d'inflammation dans les canaux. Zander a suggéré que ces amas de tissu calcifié étaient dus à un processus de carie plus rapide et plus aigu que celui qui forme de dentine secondaire. Une certaine résorption à l'intérieur est aussi une preuve d'un processus de dégénération des cellules de la pulpe. La radiographie montre souvent cette pathologie logée habituellement dans les canaux radiculaires.

L'hémorragie abondante d'une brèche pulpaire est un signe d'inflammation et d'hypérémie abondantes. Les expositions de pulpe, parfois considérables, avec ou sans exudat, montrent au contraire qu'il s'agit d'une désorganisation de la pulpe qui s'étend parfois jusque dans les canaux. Le coiffage de pulpe aura le plus de succès là où on remarque une exposition très petite, quand toute la carie a été enlevée avec le moins de traumatisme possible.

Cependant, de petites expositions de pulpe et des caries peu profondes montrent parfois à l'examen histologique des poussées inflammatoires et une dégénération dans la pulpe.

On ne peut se baser sur l'absence de douleur pour justifier des traitements de canaux dans les dents primaires ou dans les dents permanentes de jeunes patients. La dégénérescence de la pulpe et même une fistule peuvent se produire sans qu'il y ait de douleur. Une douleur éprouvée à la mastication ou causée par des aliments irritants ou par une accumulation de nourriture prouve souvent que les dents sont encore vivantes; au contraire, des douleurs qui se manifestent le soir ou qui apparaissent spontanément sans cause apparente sont des signes de mortification pulpaire ou de changements irréversibles. L'enflure, la mobilité et la douleur à la percussion indiquent à ne pas s'y tromper qu'il s'agit de dégénération avancée qui influence les tissus périapicaux. L'interprétation de tous ces signes aide le dentiste à décider de la thérapie pour conserver, à l'aide de l'endodontie, les dents des enfants.

On rencontre souvent dans des dents primaires des pulpes nécrosées qui n'ont pas été traitées. Les dentistes les laissent souvent dans cet état pour que ces dents servent néanmoins à garder l'espace nécessaire à l'éruption des dents permanentes. Discutons brièvement ce problème. Jarvis a prouvé que des cavités proximales laissées béantes ne maintiennent guère l'espace normal alloué pour les permanentes. Le maintien intégral de la longueur de l'arcade dentaire repose sur le contact serré de toutes les dents. La carie et sa pénétration dans la pulpe favorise l'infection qui se traduit par une lyse des cellules osseuses. Cette destruction occasionne l'éruption des permanentes dans un axe dévié. Ainsi, la rétention des dents avariées et infectées est une cause plutôt qu'un obstacle aux malocclusions. On assiste souvent, dans ces cas, à la sortie des grosses dents en direction buccale. Des permanentes peuvent aussi,

à la faveur de ces infections osseuses, prendre prématurément leur place sur l'arcade. Ces éruptions prématurées imposent à des dents dont les racines ne sont pas suffisamment formées une fonction pour laquelle elles ne sont pas prêtes; comme résultat, elles se déplacent facilement sous la pression des dents antagonistes. Les infections alvéolaires chroniques causées par des pulpes dégénérées qui n'ont pas été traitées peuvent atteindre le follicule des dents permanentes et traumatiser la couronne de ces dents. Il n'y a donc aucune raison, en se plaçant au point de vue dentaire, de conserver des dents primaires infectées.

La pédodontie exige une dentisterie opératoire de bonne qualité. L'amalgame est le matériel de choix pour obturer les dents primaires et les jeunes dents permanentes. Les ciments et les plastiques n'ont pas encore fait leurs preuves. Disons un mot des obturations en amalgame, puisqu'elles sont celles que nous utilisons le plus communément pour les dents postérieures. Lampshire a décrit les qualités que doivent avoir les cavités de classe II des dents temporaires. Voici ces recommandations:

1. la largeur de la partie étroite de la queue d'aronde doit être équivalente au quart du diamètre bucco-lingual de la dent. C'est ce qu'on appelle le col de la queue d'aronde;
2. la paroi pulpaire doit être arrondie; de même, la ligne de l'angle pulpoaxial;
3. les points de rétention sur les cotés et à la paroi gingivale de la cavité.

Castaldi a écrit que, même en mettant en pratique ces principes, on a des échecs. L'erreur la plus fréquente est de creuser une crevasse profonde à la paroi proximale, surtout aux premières prémolaires inférieures. Castaldi a fait des coupes de préparation ordinaire de cavités. La taille des cavités dans les molaires permanentes doit se faire en agrandissant la cavité pour atteindre toute la carie en évitant de laisser des parois d'émail sans support dentinaire et des parois buccales et linguales minces. Il en est de

même pour les molaires temporaires à cause de leur forme ovoïde. On remarquera, en observant la face occlusale de ces dents, que les obturations qui ont été menées jusqu'à l'extrême limite de caries considérables rendent l'amalgame susceptible de se fendiller aux limites marginales; l'amalgame est fragile près des bords. L'émail est miné, si la cavité est préparée sans extension et il peut céder facilement. Ces brisures ne se produisent pas toujours à cause des formes anatomiques variables de ces molaires, qui peuvent être plus coniques en direction occlusale. Castaldi, en réponse à ce problème et pour prévenir ces fractures, suggère "de recouvrir d'un genre de couronne l'un ou ces deux cuspes selon l'étendue de la cavité et de la carie aux faces proximales". On peut faire de même pour les cavités de classe II des autres dents, où les parois buccales ou linguales existent encore, mais quand elles sont très minces. Ainsi, on se fera un devoir de

couronner le cuspe des dents dont la carie proximale s'approche de la partie occlusale, comme s'il s'agissait d'une cavité ouverte. Toutes ces complications pourraient se prévenir—et la dentisterie opératoire se résumerait alors à peu de chose et la dent conserverait sa résistance normale—si un examen radiologique de routine dépistait, à leur début, les caries proximales.

Conclusion

Les enfants ont besoin de traitements en nombre plus grand qu'ils n'en reçoivent actuellement. Il est de notre devoir de répondre à cette demande. Les enfants acceptent les soins dentaires de bonne grâce, quand le dentiste leur accorde une attention personnelle et quand leurs parents sont renseignés sur l'importance de ces traitements. Un examen à fond et des traitements basés sur des principes raisonnables permettent aux enfants de profiter pleinement des services que la profession dentaire peut leur rendre.

Nouvelles de la Société Dentaire de Montréal

La Société Dentaire de Montréal a tenu sa réunion mensuelle le 19 janvier à l'Université de Montréal, sous la présidence du Dr M. Thibault.

Après quelques mots du président au sujet des affaires de la Société, le Dr C. Bouillon présente le Dr Onil Hébert, conférencier invité.

Le Dr Hébert avait intitulé sa conférence "L'orthodontie préventive."

Il est d'avis que les malocclusions en général doivent être corrigées durant la dentition mixte et qu'en général une plaque Hawley modifiée peut être très efficace.

Avec cette plaque, il peut corriger presque toutes les malocclusions comme les occlusions fermées et les protrusions antérieures. Il peut aussi prévenir la migration de la dent de six ans, l'effondrement du procès alvéolaire et corriger la mauvaise habitude du

suçage de pouce.

On peut aussi utiliser cette plaque chez les patients de tout âge à plus forte raison chez les patients plus âgés, parce qu'elle est amovible.

Par de nombreuses diapositives, il illustre un grand nombre de malocclusions où des dents temporaires avaient été extraites prématurément.

Avant de terminer, le Dr Hébert projette un film très intéressant sur les mauvaises habitudes de suçage de pouce qui sont la cause de nombreuses malocclusions.

Le Dr Thibault remercia le conférencier de son intéressante conférence et lui présenta un souvenir, don de la Société.

Pour terminer, le Dr Charette annonça la prochaine réunion-conjointe à l'Hôtel Mont-Royal pour le 29 février. Le conférencier invité sera le Dr R. Phillips, d'Indianapolis.

Nouvelles du Corps Dentaire Royal Canadien

Cours et conférence (officiers dentaires de région)

Des officiers dentaires de région, venant de toutes les parties du Canada, et des commandants des unités dentaires de campagne en Europe, ont suivi un cours à l'Ecole du C.D.R.C., au Camp Borden, du 19 au 23 octobre, et ont assisté ensuite à une conférence des officiers dentaires, à Ottawa, du 26 au 28 octobre.

Le cours donné à l'Ecole du C.D.R.C. a surtout porté sur l'organisation des services dentaires en cas de pertes en masse, ainsi que sur les techniques les plus récentes concernant les traitements dentaires.

La conférence était dirigée par le Directeur général des Services dentaires, le brigadier K. M. Baird et présidée par le colonel G. B. Shillington, sous-directeur général des Services dentaires. Les communications présentées, de même que les délibérations, ont eu pour objet les plans et programmes actuels et futurs pour le Corps, en temps de paix et en cas de guerre.

Le 27 octobre, ceux qui assistaient à la conférence et tous les officiers du C.D.R.C. de la région d'Ottawa étaient invités à un dîner officiel et à une danse au mess des officiers du Quartier général de l'Aviation.

Les officiers dentaires de région et les commandants des unités de campagne qui ont suivi le cours et assisté à la conférence sont les suivants:

Colonel I. A. L. Millar—Région militaire de l'Ouest, Edmonton.

Colonel B. P. Kearney—Commandant de l'Ecole du C.D.R.C., Camp Borden.

Colonel A. C. Leman—Région militaire du Centre, Trenton.

Colonel T. L. Marsh—Région militaire du Québec, Montréal.

Lt-Col. C. E. Purdy—14e Compagnie dentaire, Winnipeg.

Lt-Col. W. M. Sinclair—Région militaire de l'Est, Halifax.

Lt-Col. G. R. Covey—35e Unité dentaire de campagne, France.

Lt-Col. R. H. G. Cunningham—4e Compagnie dentaire de campagne, Allemagne.

Le dernier jour de la conférence, quatre membres du personnel consultatif de la Milice étaient présents. Ce sont les officiers suivants:

Colonel H. R. McLaren, Ottawa.

Colonel J. E. Merritt, Halifax.

Colonel D. W. Henry, Montréal.

Colonel T. J. S. Cooke, Winnipeg.

Le Brigadier Baird inspecte la 15e Compagnie dentaire

Au cours d'octobre et de novembre, le brigadier K. M. Baird a fait l'inspection du personnel et des installations du Corps dentaire aux unités de l'Armée et de l'Aviation, à Québec et au Labrador.

Le major Small suit un cours

Le major E. J. C. Small, Quartier général de la région militaire du Centre, Oakville (Ont.), a suivi un cours en prothèse dentaire (couronnes et ponts) d'une durée de deux semaines, à l'Université de Michigan, du 19 au 30 octobre.

Réunions

Le colonel T. L. Marsh, officier dentaire de région, région militaire du Québec, représentait le Directeur général à la clinique d'automne annuelle du Montreal Dental Club, les 29 et 30 octobre.

Le capitaine J. L. Craig, Ecole du R.C.D.C., Camp Borden (Ont.) a dirigé une clinique sur les affections périodontiques à la même réunion.

Affections outre-mer

Le major D. H. Skinner, qui était en service à la Station de l'ARC, à Camp Borden (Ont.), a été nommé à la 4e Compagnie dentaire de campagne, en Allemagne.

Le major D. J. Carmichael, de Vancouver (C.-B.), qui était affecté au Shearwater à Dartmouth (N.-E.), a été nommé aux unités de base canadiennes au Moyen-Orient.

Le capitaine L. A. Reynolds, de Queensport (N.-E.), qui était en service au Stadacona, Halifax (N.-E.), a été affecté aux unités de base canadiennes au Moyen-Orient.

* * *

Retours d'outre-mer

Le capitaine F. C. Buschlen, d'Arthur (Ont.) et le capitaine J. J. N. Wright, d'Exshaw (Alberta), sont revenus au Canada après un séjour d'un an auprès de la Force d'urgence des Nations Unies, au Moyen-Orient. Le capitaine Buschlen sera employé au Camp Ipperwash (Ont.) et le capitaine Wright, au Camp Borden (Ont.).

* * *

Affectation au Canada

Le capitaine G. R. Myles, qui était à la Station de l'ARC, à Downsview (Ont.) a été nommé à la Clinique dentaire du Quartier général de l'Aviation, à Ottawa.

PAGES EDITORIALES

Tendances de la profession dentaire

L'exercice d'une profession se base sur le climat social, économique et politique qui l'environne.

Pour s'en convaincre, on n'a qu'à regarder, l'époque encore visible où le dentiste "isolé dans sa tour d'ivoire", accomplissait son travail comme il l'entendait: c'était la période individualiste. Il en était de même pour toutes les autres sphères d'activité humaine: l'individu était roi.

Plus tard, la découverte de l'effort collectif organisé, l'industrialisation, l'agglomération dans des centres ont changé l'atmosphère dans laquelle vivait l'homme. On ne traite plus avec quelqu'un: on transige avec un groupe; des lois sont nées, adaptées à des collectivités; l'individu est noyé dans une société.

Les populations, dans l'euphorie du coude-à-coude, savourent les avantages de la vie en commun: production, achats, services; elles songent aussi à partager les risques des malheurs et créent les systèmes d'assurances; elles reportent sur la collectivité des fardeaux trop lourds pour un particulier.

Tous les genres de protection sont possibles à condition que les risques et les obligations soient raisonnables: tel n'est pas le cas d'une assurance pour les traitements dentaires: les risques sont trop

grands, les primes prohibitives: elles équivaldraient à un simple remboursement.

Des syndicats ouvriers, des groupes d'employés, des associations de personnes contournent cette difficulté, en créant des corporations de services dentaires, qui, sans but lucratif, négocient des contrats collectifs de soins dentaires et leur financement.

Les temps sont bien changés où le dentiste organisait seul son existence. Des lois contrôlent son revenu; des tendances économiques et sociales influencent son exercice.

Quel sort lui réserve l'avenir?

Un colloque, réunissant des experts de diverses disciplines, en juin dernier, à Halifax, a tenté de soulever le voile recouvrant l'aspect que prendra l'exercice dentaire dans une dizaine d'années.*

Les implications des tendances économiques, sociales et politiques du Canada sur les fonctions du dentiste ont été groupées en huit catégories:

- 1) La tendance vers des services prodigués à des groupes ira en s'accroissant et ces corporations sans but lucratif joueront un rôle de plus en plus grand

*Voir Journal de l'Association dentaire canadienne, sept. 1959, pp. 535-548.

dans la formation de contrats collectifs. Les individus eux-mêmes auront plus soucis des traitements dentaires.

- 2) Les méthodes d'éducation dentaire des populations seront plus perfectionnées et porteront les gens à se faire soigner davantage.
- 3) Cette affluence de patients démontrera que les traitements seuls ne peuvent venir à bout des trois principales maladies dentaires: caries, malocclusions, pathologies des gencives. Il faudra donner un élan vigoureux aux recherches, pour trouver de nouvelles formules de prévention et stimuler l'usage de celles qui existent déjà.
- 4) La fluoration sera presque universellement répandue et commencera à exercer une influence sur le genre de traitements que le dentiste est appelé à donner. Son travail portera surtout sur la prévention, les malocclusions et le soin des gencives.
- 5) Les universités devront recruter et former plus de dentistes et un plus grand nombre d'auxiliaires; les cours d'études seront modifiés pour s'adapter au nouveau rôle du dentiste.
- 6) Les plus fortes demandes pour des traitements dentaires entraîneront nécessairement des modifications importantes dans l'organisation actuelle des cabinets dentaires, tant physique que professionnelle. Des dentistes formeront équipe pour conjuguer leur travail, diminuer leurs frais et accroître leur rendement individuel. Ces nouveaux systèmes s'inspireront des données expérimentales de l'organisation industrielle pour augmenter la production tout en maintenant la qualité des

services. Ces centres réserveront aux dentistes les fonctions purement professionnelles pour confier les tâches administratives et techniques à des auxiliaires entraînés à cet effet. L'ère des cabinets particuliers semble révolue. Ces nouvelles cliniques seront élaborées grâce aux efforts combinés de l'architecture, du droit, de l'industrie, de l'administration d'affaires, de la psychologie et de la sociologie.

La dentisterie suivrait en cela l'exemple des populations, qui se groupent pour se procurer mutuellement et donner aux autres des avantages collectifs.

- 7) Les hôpitaux et les institutions considérables auront des services dentaires où seront traités les chroniques et les malades psychiques; les dispensaires prodigueront aussi des traitements dentaires. On fera une place plus grande aux maladies dentaires dans l'assistance publique.
- 8) Les relations que le dentiste entretient avec d'autres groupements professionnels s'intensifieront de mille manières; le dentiste devra travailler de concert avec des organismes spécialisés (privés ou gouvernementaux) qui s'intéressent aux traitements dentaires et à leurs rapports avec les autres services de santé.

La profession dentaire, en aucun temps de son existence, n'a eu à faire face à des problèmes aussi importants; elle doit, si elle veut garder son autonomie, s'ajuster aux changements sociologiques qui se produisent dans le monde moderne.

GERARD de MONTIGNY.

Congrès de l'Association dentaire canadienne
au Chateau Laurier, Ottawa
les 25, 26, 27, 28 septembre 1960

Impôt sur le revenu

Rapports d'impôt sur le revenu des membres de la profession dentaire.

Pour la gouverne des dentistes et en vue d'uniformiser les renseignements fournis à la Division de l'Impôt du Ministère du Revenu National dans les déclarations annuelles d'impôt sur le revenu, on a cru opportun d'exposer les points suivants:

Revenus

1. Le dentiste devrait tenir un bilan exact de ses recettes provenant d'honoraires professionnels ou de revenus provenant de placements. Ce bilan doit être clair pour qu'il soit possible de le vérifier facilement en regard de la déclaration produite. Il conviendrait, à cette fin, de tenir des livres de comptabilité et de les conserver jusqu'à ce que le Ministère donne par écrit la permission d'en disposer.

Dépenses

2. Il importe, sous le chapitre des dépenses, de tenir à jour, à l'appui des frais invoqués, un état des comptes suivants sur des registres qu'on peut vérifier en tout temps:

- (a) Fournitures dentaires et autres du même genre;
- (b) Aide de bureau, infirmière, comptable, frais de blanchisserie et primes d'assurances contre négligence et incurie. Le total des salaires et des honoraires payés doit être rapporté sur la formule T4 qui peut être obtenue du Bureau de l'Impôt du District. (La loi de l'impôt sur le revenu n'accorde aucune déduction à l'égard du traitement versé par le mari à son épouse ou vice versa. Si un tel montant est versé, il doit être rajouté au revenu.
- (c) Dépenses de téléphone encourues pour l'exercice de la profession;
- (d) Assistantes ou employés:
On doit fournir au plus tard le dernier jour de février de chaque année les noms et adresses des assistantes ou des employés à qui on a versé des honoraires, en se servant de la formule T4 (ne pas confondre cette formule avec la formule T2, qui doit servir à la déclaration des revenus des particuliers et qui doit être produite au plus tard le 30 avril de chaque année);
- (e) Loyer:
Il faut fournir le nom et l'adresse du propriétaire (de préférence) ou de son mandataire (voir g);
- (f) Frais de port et de papeterie;
- (g) Dépenses proportionnelles des den-

tistes exerçant dans leur domicile.

- (a) le dentiste en étant le propriétaire:
Lorsque le dentiste exerce dans une maison qui lui appartient et dans laquelle il réside, il est accordé une déduction proportionnelle des dépenses de la maison pour le cabinet, le laboratoire, le bureau et la salle d'attente, en tenant compte de l'espace occupé par la résidence. Les dépenses visées comprennent les taxes, l'éclairage, le chauffage, l'assurance, les réparations et l'intérêt sur l'hypothèque (fournir le nom et l'adresse du créancier hypothécaire). Remarque en ce qui concerne la dépréciation, voir l'item 2 (1).
- (b) le dentiste en étant le locataire:
Le prix du loyer est réparti de même que le coût du chauffage et celui de l'éclairage, si payés par le dentiste; le propriétaire du local acquitte toutes les autres dépenses mentionnées ci-dessus (a);
- (h) Frais divers (non compris ailleurs):
Les frais portés à cet item doivent pouvoir être prouvés et appuyés par des documents. Les déductions exigées pour des dons faits à des oeuvres de charité sont consenties jusqu'à concurrence de 10 pour cent du revenu net provenant de toutes sources, à condition d'en produire les reçus au bureau de l'impôt du district. Les dons de charité faits dans l'exercice de sa profession ne peuvent pas être inclus dans les dépenses du cabinet, mais être déduits du revenu général, comme tout autre don fait autrement. Le gouvernement accepte comme dépense les contributions annuelles versées à des organismes légaux de qui relève l'autorisation d'exercer et les cotisations à des associations, à condition de les mentionner dans la déclaration. Les frais occasionnés par des cours post-scolaires ne sont pas acceptés.
- (i) Les intérêts payés pour des emprunts effectués pour l'exercice professionnel peuvent être déduits des revenus provenant de la pratique professionnelle. Les intérêts versés pour des emprunts effectués dans un but de placement peuvent être retranchés des revenus provenant de ces placements. Si l'emprunt a été contracté pour des fins personnelles, le dentiste ne peut en déduire les intérêts de ses revenus.

(j) Les taxes d'affaires sont admises à titre de dépense, mais non les impôts sur le revenu.

(k) Dépenses d'automobile:

On admet les dépenses de taxi et d'automobile faites pour gagner un revenu dans l'exercice de sa profession, quand le dentiste doit se rendre au domicile de ses patients. Les frais de transport du dentiste entre son domicile et son cabinet ne sont pas déductibles.

(l) Allocation du coût en capital (dépréciation):

La page 4 de la formule générale T1 du rapport de l'impôt sur le revenu, Etat des revenus et dépenses de la formule générale T1, contient des renseignements sur la méthode de l'allocation du coût en capital, en vertu de la partie IX des Règlements.

La méthode à employer pour calculer la dépréciation aux fins de l'impôt sur le revenu est semblable à celle de l'an dernier; le dentiste ne devrait pas avoir de difficulté, s'il a une copie de sa déclaration de 1958. Il faut, après avoir déduit l'allocation de l'année précédente, reporter tout simplement le solde obtenu pour chaque catégorie; ensuite ajouter à ce chiffre le coût des nouveaux appareils achetés et déduire le montant reçu (disposition) pour les appareils usagés de chaque catégorie. Le pourcentage que le dentiste désire utiliser jusqu'à concurrence du taux maximum (voir ci-après) est appliqué au nouveau solde de chaque catégorie; c'est ainsi que s'établira la dépréciation réclamée pour l'année courante. Voici le tableau qui apparaît à la page 4 de la formule générale T1 de l'impôt sur le revenu:

(1) Numéro de caté- gorie	(2) coût en capital non dé- précié au début de 1959 (col. 8 du rap- port de 1958)	(3) coût des additions durant 1959	(4) produits des dis- positions durant 1959
(5) coût en capital non déprécié avant allo- cation pour 1958 (col. 2, plus 3, moins 4)	(6) taux %	(7) allocation du coût en capital pour 1959	(8) coût en capital non déprécié à la fin de 1959 (col. 5, moins col. 7)

Valeurs	Catégorie	Taux maxi- mum
équipement dentaire com- prenant instruments dont chacun coûte \$50.00 ou plus	8	20%
instruments coûtant moins de \$50.00	12	100%
ameublement et accessoires de bureau	8	20%
édifice en pans de bois (cabinet ou résidence utilisé à la fois comme lo- gement et cabinet)	6	10%
édifice en briques (cabinet ou résidence utilisé à la fois comme logement et cabinet)	3	5%

Les instruments dont le coût s'établit à moins de \$50,00 chacun sont compris dans la catégorie 12 et bénéficient d'un taux maximum d'allocation de 100%. Ces instruments ne doivent pas être portés au compte des dépenses, mais doivent être inscrits à titre d'addition dans la colonne 3 du tableau.

Lorsqu'un dentiste exerce sa profession dans une maison dont il est propriétaire et dans laquelle il a sa résidence, l'allocation peut être réclamée comme indiqué ci-dessus sur une fraction du coût de l'édifice à l'exclusion du terrain. Par exemple, si la résidence est un édifice en briques d'une valeur de \$12,000.00 et qu'un tiers de l'espace sert de bureau, le dentiste peut évaluer à \$4,000.00 l'espace qu'il effecte à l'exercice de sa profession et y appliquer le taux de cinq pour cent, ce qui lui donnera la dépréciation maximum qui lui est accordée pour la première année.

On se reporte, pour de plus amples renseignements, aux règlements établis ou on consulte le bureau de l'impôt pour le district.

CONGRES

Un contribuable exerçant une profession peut déduire les dépenses occasionnées par l'assistance à pas plus de deux congrès par année. Le contribuable doit assister à ces congrès pour des motifs professionnels. Il n'y a aucune limite géographique pour ces déductions; c'est pourquoi, il n'est pas nécessaire que ces congrès aient lieu au Canada. Les dépenses que le dentiste peut déduire pour ces congrès doivent être raisonnables et celui-ci doit fournir les documents suivants:

1. les dates du congrès et l'endroit où il a lieu;
2. le nombre de jours de présence au congrès, attesté par un certificat de présence fourni par l'organisme qui organise ce congrès;

3. les dépenses encourues, en les classant séparément:

- (a) frais de transport
- (b) repas
- (c) chambre d'hôtel, en se procurant des reçus et en les conservant pour être en mesure de les produire sur demande.

Ceux qui gagnent leurs revenus sous forme de salaire ne peuvent pas déduire de telles dépenses d'après la section 5 de la Loi de l'impôt sur le Revenu.

Toutes les dépenses personnelles, comme celles d'amener son épouse à un congrès (ou son mari, pour une femme dentiste), ne peuvent pas être déduites d'après ce règlement.

Plan d'épargne-retraite enregistré

Le montant déductible pour les sommes versées à un plan d'épargne-retraite est limité:

- (a) pour un employé à salaire qui bénéficie d'un plan de retraite auquel il contribue conjointement avec son employeur à un maximum de \$1,500.00 ou 10% de son revenu gagné et
- (b) pour les autres, à un maximum de \$2,500.00 ou 10% du revenu gagné. On entend par "revenu gagné" le revenu reçu comme salaire (avant toute déduction pour le fonds de retraite) ou le revenu retiré de l'exercice d'une profession ou d'une entreprise plus les revenus nets provenant d'autres sources.

Les sommes déductibles doivent être celles qui ont été payées en 1959 et en-dehors de 60 jours après la fin de l'année. Un montant payé en janvier ou en février 1959 ne peut pas être déduit pour 1959, s'il pouvait être déduit en 1958.

Ceux qui participent à un plan de retraite et qui désirent savoir si leur plan s'applique aux exigences de l'impôt doivent se renseigner auprès de la compagnie qui s'occupe de ce plan, car il appartient à celle-ci d'en faire connaître les modalités et de faire enregistrer son plan auprès des autorités gouvernementales. Les dentistes qui ont demandé à devenir membres du Plan d'Épargne-Retraite de l'Association dentaire canadienne avant le 15 février 1960 peuvent être certains que leur nom a été soumis comme adhérent à un plan d'épargne-retraite enregistré et que leurs primes sont déductibles pour l'année 1959. La date finale pour les demandes d'admission et pour le paiement des

primes déductibles pour 1959 est le 15 février 1960.

Chacun des membres du Plan de l'A.D.C. recevra au cours du mois de mars 1960 un bilan personnel de son compte et un reçu qui pourront leur servir pour établir leurs déductions dans leur rapport d'impôt pour 1959.

Les demandes d'admission dans le Plan d'Épargne-Retraite de l'A.D.C. qui auront été reçues après le 15 février 1960 pourront servir à des déductions en 1960.

Paiement de l'impôt

- 3. Les individus dont plus de 25% du revenu provient de sources autres qu'un salaire ou d'honoraires doivent payer leur impôt annuel en versements trimestriels durant l'année courante, aux dates suivantes: 31 mars, 30 juin, 30 septembre, 31 décembre.

Dentistes à salaire

- 4. La loi de l'impôt sur le revenu permet certaines déductions du salaire. Ces déductions comprennent les dépenses de voyage, les cotisations professionnelles annuelles, le loyer d'un bureau, des salaires à des assistants ou des remplaçants et des fournitures directement utilisées dans l'exercice des fonctions. Il faut toutefois certaines conditions pour l'allocation de ces dépenses et, sans entrer dans les menus détails de la loi, voici les points principaux:

- (a) Il faut que ces dépenses aient été faites en rapport avec l'exercice d'une charge ou d'un emploi.
- (b) Il faut que, d'après les termes de son contrat, l'employé soit obligé de faire ces dépenses lui-même.
- (c) Pour déduire des frais de voyage, il faut que l'employé soit ordinairement tenu d'exécuter les fonctions de son emploi ailleurs qu'au lieu d'affaires de son employeur. Les dépenses de voyage encourues par le dentiste pour se rendre de sa résidence à son bureau ne sont pas déductibles.

Revenus d'une société professionnelle

- 5. Des dépenses supplémentaires encourues par un associé et non chargées à la société peuvent être déduites du revenu de l'associé. Toutefois, il faut que l'associé puisse établir clairement ces dépenses, montrer pourquoi elles n'ont pas été chargées à la société et prouver qu'elles étaient nécessaires aux revenus de la société.

Nouvelles de l'Association

Inauguration de l'édifice de la faculté dentaire de l'Université de Toronto

Environ 2,000 personnes ont assisté aux cérémonies qui ont marqué l'inauguration du nouvel édifice de la faculté dentaire de l'Université de Toronto, le 25 novembre dernier. Cet immeuble est probablement le centre le plus considérable et le plus moderne au monde pour l'enseignement et les recherches dentaires.

Des doctorats honoraires en droit ont été remis, au cours d'une collation spéciale, à Mm. Willard Fleming, doyen de la faculté de chirurgie dentaire de l'Université de Californie, Martin A. Rushton, professeur de médecine buccale à l'Université de Londres, et Arnold A. Mason, doyen émérite de la faculté dentaire de l'Université de Toronto.

Le docteur Fleming, au cours d'une allocution, a demandé aux universités de former des hommes — diplômés, post-gradués et professeurs — qui soient en rapport avec les édifices modernes qui les abritent et en rapport avec notre époque en révolution.

Le Premier Ministre de la province de l'Ontario a inauguré officiellement l'édifice de cinq étages, qui a coûté \$6,000,000 et qui renferme de l'outillage évalué à \$2,000,000. Cette nouvelle faculté, qui est le résultat de plusieurs années d'élaboration de la part du docteur Ellis et de son corps professoral, pourrait fournir 124 nouveaux diplômés, chaque année, alors qu'auparavant elle ne pouvait en former que 74.

Visites du président

Le docteur W. G. McIntosh, président de l'Association dentaire canadienne, a pris la parole au cours du déjeuner de l'Académie de Dentisterie de Toronto, le 26 novembre. Environ 700 personnes s'étaient inscrites à la clinique annuelle d'hiver d'une Journée de l'Académie.

A la fin de cette même journée, le président et le secrétaire de l'A.D.C. se sont rendus à Montréal, pour commencer leur voyage annuel vers l'est du Canada.

Le docteur McIntosh a fait un discours devant les étudiants de l'Université McGill

et devant ceux de l'Université de Montréal, vendredi, le 27 novembre. Le soir, les deux délégués ont rencontré les Gouverneurs du Collège des Chirurgiens-Dentistes de la province de Québec.

Cette tournée les ont conduits à Saint-Jean, N.-B., le 30 novembre; à Charlottetown, I.-du-P.-E., le 1er décembre; et à Halifax, le 2 décembre, où le président a rendu visite aux étudiants de l'Université Dalhousie. Ensuite, à leur retour, le président et le secrétaire se sont rendus à Québec (le 3 décembre) et aux Trois-Rivières (le 4 décembre).

Le voyage vers l'ouest du pays a commencé par Saskatoon, le 22 février.

Nouveau dépliant sur la fluoration

Un nouveau dépliant intitulé "Fluoration—la méthode naturelle de prévenir la carie dentaire" vient d'être publié par l'Association dentaire canadienne. Ce fascicule a été rédigé par le Comité d'Hygiène dentaire publique de l'A.D.C. et on peut s'en procurer des copies au prix de \$1.65, le cent, en écrivant au secrétariat.

Statistiques d'impôt

Le dentiste canadien qui a fait un rapport d'impôt en 1957 a rapporté en moyenne des revenus de \$10,234, c.-à-d. une augmentation d'environ 11% sur la moyenne de 1956 qui était de \$9,230. L'impôt moyen des dentistes a été de \$1,690, en comparaison de \$1,452, qu'il était en 1956.

Ces chiffres proviennent de la plus récente publication "Statistiques d'Impôt" que le Ministère du Revenu interne publie, tous les ans.

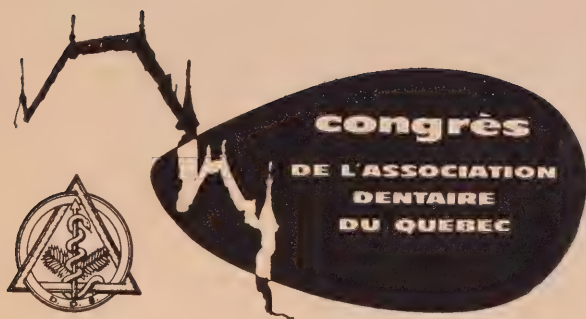
Les dentistes, dans un tableau qui indique les revenus en rapport avec les professions, se classent derrière les ingénieurs et les architectes, les médecins et les chirurgiens, les avocats et les notaires et les comptables.

Les dentistes, selon ce rapport, dans une proportion de 27.8%, ont gagné entre \$10,000 et \$15,000, en 1956, comparativement à une proportion de 24.7% pour cette catégorie, en 1955. En 1956, 11.7% ont dépassé \$15,000 et 54% (64% en 1955) ont rapporté des revenus de moins de \$10,000.

	Nombre	Moyenne des revenus	(1956)	Moyenne des impôts	(1956)
Ingénieurs et architectes	22,029	\$14,581	(13,640)	\$3,616	(3,312)
Médecins et chirurgiens	11,755	13,978	(13,053)	2,905	(2,729)
Avocats et notaires	6,110	13,244	(12,617)	2,955	(2,905)
Comptables	3,184	10,879	(9,940)	2,110	(1,881)
Dentistes	3,756	10,234	(9,230)	1,690	(1,452)
Financiers	85,664	6,233	(6,021)	928	(882)

(suite à la page 184)

AU CHATEAU FRONTENAC
À QUÉBEC
LES 26, 27 ET 28 MAI 1960



Organisé par la Société de Stomatologie de Québec

Nouvelles de l'Association (suite)

Le Nouveau-Brunswick fait maintenant partie des Plans de Services Dentaires Incorporés

Le Nouveau-Brunswick est la cinquième province du Canada à faire partie des plans de post-paiements des P.S.D.I. La Société dentaire du Nouveau-Brunswick vient de prendre cette décision à sa soixante-quatrième assemblée annuelle, qui a eu lieu récemment.

Le docteur A. J. Coughlan, président du Comité des Services dentaires du Nouveau-Brunswick, et M. W. E. Jackson, de Toronto, administrateur des P.S.D.I., ont expliqué les modalités du plan à la Société.

Les plans de post-paiements des P.S.D.I. fonctionnent maintenant en Alberta, Saskatchewan, Ontario et Nouvelle-Ecosse. Environ 1,200 dentistes participent à ce plan. Les P.S.D.I. administrent aussi les plans de bien-être en Alberta et en Ontario.

Les annonces à la télévision sont aussi truquées

L'Association dentaire américaine poursuit sa campagne contre les annonces frauduleuses faites à la télévision au sujet des dentifrices. Le docteur Harold Hillenbrand, secrétaire de l'A.D.A. a déclaré récemment que les annonces commerciales faites à la T.V. au sujet des dentifrices sont aussi truquées, comme d'autres genres de programmes, ainsi qu'on l'a découvert il y a quelque temps.

Le docteur Hillenbrand a qualifié comme étant "trompeuses et préjudiciables à la santé dentaire du public" les déclarations faites à la télévision au sujet des dentifrices et aussi les annonces imprimées des compagnies qui fabriquent ces produits.

Au lieu d'encourager une meilleure hygiène dentaire, cette publicité, a-t-il dit, porte le public à se désintéresser du soin de ses dents. L'A.D.A. a demandé au gouvernement fédéral de passer des lois pour créer des organismes chargés de contrôler cette publicité. **Le "Citizens' Forum" a discuté la question d'assurance-santé**

Le "Citizens' Forum," une émission de télévision qui discute de divers problèmes à l'échelle nationale, a inscrit à son programme du 3 janvier, à 3.00 hrs. p.m. la question suivante: "Êtes-vous en faveur d'un plan complet d'assurance-santé gouvernemental?" La plupart des postes canadiens ont offert cette émission. Le réseau de radio Trans-Canada a transmis le même programme le 7 janvier.

Congrès d'odontologie infantile

La Société d'Odontologie infantile de Colombie a invité les dentistes canadiens à participer à son premier congrès pan-américain traitant d'odontologie infantile. Ce Con-

grès a lieu à Bogota du 21 au 27 février 1960. On peut obtenir des renseignements supplémentaires en écrivant à La Sociedad Colombiana de Odontopediatria, Carrera 13, no 41-58, Bogota, Columbia.

Publication du Comité des Relations extérieures

Le Comité des Relations extérieures vient de publier un joli fascicule intitulé: "Guide de relations professionnelles avec le public" et cette publication a été postée à tous les membres. Ce livret, qui a été préparé à la demande du Conseil des Gouverneurs, s'adresse aux dentistes individuellement, aux sociétés dentaires et aux journalistes.

Le travail le plus important du comité, cette année, portera à éveiller chez les étudiants leur curiosité pour les relations extérieures. Le comité s'efforcera aussi de créer partout au Canada des centres d'urgence dentaire et de renseigner davantage les membres sur le rôle et sur les réalisations de l'Association dentaire canadienne.

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The Canadian Dental Association

Volume 26

Number 4

Toronto

April 1960

JOURNAL

Two Hundred Years of Evolution:

A Dialectical History*

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PART II (Conclusion)

One of the most clear-cut and convincing proofs of the correctness of the neo-Darwinian position lay in the studies by Lederberg of the mechanism of bacterial resistance to penicillin. The phenomenon is one of great clinical importance: incu-

bating growing bacteria with small concentrations of drugs leads to a progressive development of resistance on the part of the population, until one has finally a population resistant to extremely high concentrations, to which the original population was sensitive. The lamarckian explanation is that penicillin induced each bacterium to respond in such a way as to become relatively immune, a phenomenon which is widely known (due to the work of Pollock) and that this immunity is passed on, becoming ever more perfect in

*An invited lecture, presented at the meeting of the Canadian Dental Association, June 23, 1950.

**Assoc. Professor of Physiology.

succeeding generations of bacteria. The neo-Darwinian explanation is that among the initially sensitive bacteria there existed a small number of resistant mutants, whose presence had nothing to do with the penicillin (i.e. they were spontaneous mutants) and that the penicillin acted as an agent of natural selection, killing off the sensitives, and allowing the resistants to form an increasingly large fraction of the population with each cell division, until finally the population was entirely resistant. Lederberg proved that the neo-Darwinian explanation was correct, using the replicate plate technique, which I have not time to describe but which I recommend as a model of a simple yet elegant experiment with far-reaching conclusions.

VII. The story would seem to be over, and the major dialectic resolved. But not so. For coincident with the rise and triumph of neo-Darwinism in the West has been an astonishing rise of neo-lamarckianism in the Soviet Union, with an apparent resolution in its favour. I propose to develop briefly the story of this movement.

In fact, lamarckism had become moribund, but never dead. Reservoirs of frank and crypto-lamarckism have always existed among plant breeders, paleontologists, and French biologists, especially those leaning in the direction of a philosophical finalism (the doctrine of final causes or teleology, which is extremely strong in the work of Lamarck himself), and who could not conceive that the beautiful and apparently purposive sequence of evolutionary complication and exquisite adaptation of organisms to their environment could be due to chance mutations.

In the scientific literature, many examples of alleged inheritance of acquired characters have been reported, almost all of which have been shown to be either faulty in experimental design or in detail, or which no one has been able to repeat. Among these workers, one name deserves special mention, that of Paul Kammerer, a trained breeder of cold-blooded animals who later became a Doctor of Science and

a Professor at the University of Vienna, and who began a series of investigations into the possibility of lamarckian inheritance, shortly after the turn of the century.

In a series of papers published in the *Archiv. für Entwicklungsmekaniik*, he made the following claims, all purporting to prove the inheritance of acquired characters: 1. that he converted an oviparous salamander to a viviparous one by altering the environment, and that the change was thereafter hereditary. 2. that the range of expression of colour of salamanders, which was changed by altering the background from black to yellow, was altered in future generations by this environmental treatment. 3. that by breeding *Proteus*, the blind newt, in a light environment, he was able to cause reappearance of a hereditary eye. 4. that by amputating the siphon of *Ciona*, an ascidian, this organ was caused to grow back in hypertrophied form, and was thereafter inherited in its new form. Many of these claims were challenged and some were even alleged to be fraudulent, shortly after they were first published.

His fifth claim was the one which attracted the most comment. This involved an alleged hereditary directed transformation in *Alytes*, the midwife toad. Now, frogs and toads who undergo amplexus (a batrachian embrace preliminary to fertilization, in which the male applies his belly to the back of his female and grasps her abdomen in a firm, but loving grip) in the water have developed a "nuptial pad" on the surface of their manus (hand) which is usually darkly pigmented and has small spines whose function is allegedly to permit the firm grip to which I have alluded. *Alytes*, on the other hand, is a land-breeding species and has no such pad. Kammerer stated that if *Alytes* were bred at a somewhat higher temperature than usual, and given free access to water, his specimens ultimately developed the horny pad of their aquatic ancestors, and that this character became stable, even when the toads were bred on land thereafter. One of his papers

contained a photograph of such a toad, the fifth generation bred in water; he claimed that one can clearly see that "the dark shading of the left hand denotes the extension of the nuptial pad"; this was absent in the hand of the control animal pictured alongside.

In 1913, the great English geneticist, Wm. Bateson, in his book *Problems of Genetics*, referred to the case in these words:

"The figures which Kammerer gives (i.e. of the pad, JGK) are quite inadequate and as they merely indicate a dark patch on the thumbs, it is not possible to form any opinion as to the nature of the structure they represent . . . I wrote to Dr. Kammerer on July 1, 1910, asking him for the loan of such a specimen, and on visiting the Biologische Versuchs-anstalt in September of the same year, I made the same request, but hitherto none have been produced."

In 1919, the English lamarckian, E. W. MacBride, of Imperial College, and defender of Kammerer, attacked the views of Bateson. He wrote:

"These results, as I pointed out, would, if confirmed, definitely establish the inheritability of acquired characters, one of the most fundamental questions in biology. But Kammerer's results were received by many of his zoological colleagues, not only here but also on the continent, with a storm of criticism. Doubts were cast on his bona fides, and it became fashionable to ignore his results in discussing the laws of heredity."

Shortly after, Bateson replied in *Nature*, describing his visit in 1910 to the Versuchsanstalt, directed by Prof. Przibram, in which Kammerer worked. He wrote:

"After seeing what Dr. Kammerer showed us we were entirely unconvinced, and in particular it seemed to us inexplicable that if *Alytes* had existed with a nuptial pad in July, one specimen of such a great curiosity should not have been preserved . . . I find it difficult to understand why, if these structures are as Dr. Kammerer

declares, he did not make a proper series of microphotographs of them *in situ*."

In 1923, a series of polemic papers between Bateson and MacBride broke out in *Nature* on the occasion of Kammerer's visit to England, during which he exhibited publicly an example of such an *Alytes*, and wrote a review in *Nature* describing his work. In reply to this article, Bateson wrote:

"When however an exhibition before the Linnaean Society was arranged, I naturally attended as a fellow of the Society to see what I could. I expected to see a dark mark on the thumb or other fingers extending perhaps more or less over the wrist or up the forearm; and whether this was to be interpreted as a nuptial rugosity or not would, I imagined be more or less a matter of opinion. What I did see was something altogether different . . . The right hand showed nothing special, but across the palm of the left hand was a broad dark mark . . . But the appearance was quite unlike that of any natural nuptial pad . . . I direct attention first to the fact that the structure shown did not look like a real nuptial pad. Next I lay stress on its extraordinary position. It was in the wrong place. In the embrace of Batrachians, the palms of the hands of the male are not in contact with the female."

This attack, in which the implied accusation of fraud could hardly be missed, was responded to by MacBride, to which Bateson replied.

In 1924, Kammerer went to New York, where he wrote and published a book, "The Inheritance of Acquired Characteristics"; he mentioned in the preface that he was assisted by, among others, Dr. G. Kingsley Noble, later Head of the Department of Experimental Biology at the New York Museum of Natural History. In 1926, Noble went to Vienna, where with the permission of Prof. Przibram, he inspected the very specimen of *Alytes* which Kammerer had exhibited in England. Noble wrote in *Nature*, August 7, 1926:

"A preliminary examination of it by me in Vienna revealed such unexpected features that Dr. H. Przibram and I have found it advisable independently to make a thorough macroscopic, histological and chemical examination of the critical features of the specimen . . . I found the specimen to have its left manus blackened on both its dorsal and ventral surfaces . . . A slight blackening was also to be seen on the right manus. Neither manus had the appearance of possessing nuptial pads, but both seemed to have been injected with a black substance, for the blackening included some of the capillaries . . . A slight pushing aside of the muscles revealed that the muscles . . . were surrounded by a black colouring matter on all sides . . ."

Przibram and Noble concluded that the substance in question was India ink! Przibram wrote in the same issue of *Nature*:

"The only possibility that we can think of is that some one has tried to preserve the aspect of the black nuptial pads in fear of their vanishing by the destruction of the melanin through exposure to sun in the museum case, by injecting the specimen with India ink. Kammerer himself was greatly astonished at the result of the chemical tests, and it should be stated that he had been asked and had given his consent to the chemical investigations. He would suggest that somebody had made such injections to get him into difficulties were it not that he remembers the black substance to have been in the same place and amount even in the living animal . . . So the case remains obscure . . ."

Two weeks later, MacBride's defense appeared; he stated that he himself had seen the nuptial spines during the animal's sojourn in Cambridge, and he concluded:

"I suggest that Dr. Noble and his colleagues, instead of making aspersions on the good faith of a fellow worker and the credulity of English scientists (i.e., the many who inspected the specimen, JGK) would be better employed in endeavouring, as I have done, to repeat

Kammerer's experiment, and when they have produced anything half as wonderful as his *Proteus* their comments will be listened to with more patience . . ."

I shall not bore you with an account of the final exchange between Noble and MacBride which enlivens the pages of this same volume of *Nature*. I do recommend reading MacBride's last letter as an example of how insufferably patronising some Englishmen can be when dealing with Colonials!

In *Science* of November 19th, 1926, is printed a letter from Kammerer to the Moscow Academy of Science; he had apparently been designated Professor of Biology at the University of Moscow.

Vienna, September 22, 1926.

To the Presidium of the Communist Academy, Moscow.

Respected Comrades and Colleagues:

Presumably you all know of the attack upon me made by Dr. Noble in *Nature* of August 7, 1926 . . . The principal matter of importance in this is an artificial colouring, probably with India ink, through which the black colouring of the skin . . . is said to have been faked. Therefore it would be a matter of deception that presumably will be laid to me only.

After having read the attack, I went to the Biological Experimental Institute for the purpose of looking over the object in question. I found the statements of Dr. Noble completely verified. Indeed, there were still other objects (blackened salamanders) upon which my results had plainly been "improved" post-mortem with India ink. Who beside myself had any interest in perpetrating such falsifications can only be dimly suspected. But it is certain that practically my whole life's work is placed in doubt by it.

On the basis of this state of affairs I dare not, although I myself have no part in these falsifications of my proof specimens, any longer consider myself the proper man to accept your call. I see that I am also not in a position to accept this wrecking of my life's work,

and I hope I shall gather together enough courage and strength to put an end of my wrecked life tomorrow.

I am not stopping the packing up of the things destined to be taken with me. First, because it would attract the attention of my family, which must not know anything of my intention before it is carried out; and second, because I am thus making my last will and testament, giving my library into the care of the Communist Academy in Moscow, so that this will compensate it for all the efforts it has wasted upon me.

Finally, I ask that my heartiest farewell greetings be given to the following friends . . .

With the plea that you will forgive me for having made you all this trouble, I am

Yours devotedly,
Paul Kammerer.

We reach the end of this dramatic story in *Nature* of October 16, 1926, in a note by Dr. Przibram. It begins

"I regret to have to announce the death of Prof. Dr. Paul Kammerer, who shot himself on the Hochschneeberg, near Vienna, on September 23."

Did I say the end? Not quite, for I must describe how Paul Kammerer achieved an immortality not vouchsafed many scientists. The story is told by the eminent geneticist, Richard Goldschmidt, who was guest of honour at the all-Russian genetics congress held in Leningrad in 1929. He relates how, while walking with a friend he passed a film theatre and noticed a large poster bearing the legend, "Salamandra," obviously the title of the film, and decorated with pictures of this animal. He went in with his friend to see the film, and describes it thus in *Science*:

"It uses the tragic figure of Kammerer, his salamanders, and mixed up with them, for the story, his midwife toads. The importance attached to the subject is revealed by the facts that none other than the then all-powerful Commissar for Education, the highly cultured and intelligent Lunacharsky, is the author of the film, that his wife plays the lead-

ing lady and that Lunacharsky, playing himself, appears in one scene. Leaving out the interwoven love story written to fit the beautiful Mme. Lunacharsky, the plot is this: In a central European University a young biologist (model Kammerer) is working. He is a great friend of the people and endowed with all the qualities of a Communist movie hero. Working with salamanders, he has succeeded in changing their color by action of the environment. One day the supreme glory is achieved; the effect is inherited. The bad man of the play, a priest, learns of this, comes to the conclusion that the discovery will spell an end to the power of the church and the privileged classes, and decides to act. He meets at night in the church (I recognized with surprise that these pictures were taken in the glorious double Cathedral of Erfurt in Thuringia) with a young prince of the blood whom he had succeeded in having appointed as assistant to Kammerer. (This is obviously a typical job for a German prince!) Here in the dark sacristy the plot is hatched. The prince (or the priest?) proposes to Kammerer that he announce his glorious discovery at a formal University meeting, and the scientist gladly accepts. During the following night the priest and the prince enter Kammerer's laboratory, to which the prince has the key, since he poses as the scientist's devoted collaborator. They open the jar in which the proof specimen of salamander is kept in alcohol, and inject the specimen with ink. Then follows the scene at the University meeting. All the professors and the president appear in academic robes, the young scientist is introduced and makes a brilliant speech announcing the final proof for the inheritance of acquired characters. When the applause has ended the priest (or was it the assistant? I am quoting entirely from memory) steps up, opens the jar, takes out the salamander, and dips it into a jar of water. All the colour runs out of the specimen. An immense uproar starts and Kammerer is

ingloriously kicked out of the University as an imposter. Some time later we see the poor young scholar walking the streets and begging with an experimental monkey which had followed him into misery. He is completely forgotten until one of his former Russian students arrives and tries to call on him. She succeeds in finding him, finally, completely down and out, in a miserable attic. She takes the train at once to Moscow and obtains an interview with Lunacharsky (this is the scene where he appears in person), who gives orders to save the victim of bourgeois persecution. Meanwhile, the character Kammerer has sunk so low that he decides to make an end of it. The very moment he tries to commit suicide, the Russian student returns with Lunacharsky's message and prevents him from taking his life. The last scene shows a train in which Kammerer and the Russian savior are riding east and a large streamer reads "To the land of Liberty."

We must now ask two related questions: 1, Why is the doctrine of the Inheritance of Acquired Characters held with such fervour that people are prepared to fake experiments on its behalf? And 2, Why would the Russians offer a Chair to a man on whose work serious doubt had been cast (to say nothing of imputations of forgery) for more than 13 years previous?

The final chapter of Kammerer's book gives us a clue to both questions. He writes that his work on lamarckian inheritance,

"the far-reaching importance of which can hardly be surmised, opens up an entirely new way to improve our own race, to better and benefit mankind as a whole. This is a much more beautiful, a much more dignified path than the one that fanatic race promoters—especially in war-torn Europe—ever and again propose, a method which is based on nothing but the unmerciful struggle for life. Through race-hatred and the elimination of entire races—many of them have incurred the dislike of the

one or the other race for no reason whatsoever—we will never succeed in preventing humanity from becoming degenerated. Along this line of march we will never succeed in reaching an ever higher goal, but only by striving to improve ourselves.

If acquired characteristics, if impressions in the life of the individual are hereditary under certain circumstances, we may assume that the deeds and thoughts of man may be passed on in the same way. The responsibility for what we do, and what we do not do, grows bigger than we ever dared to surmise as soon as we become conscious of the fact that our experiences are surely more than just irrelevant for our organic heirs."

I believe that it is because of this promise of indefinite improvement of the human race by environmental amelioration that naive men like Kammerer and, indeed, like the leaders of the Soviet Communist party, have concluded that lamarckism is the most attractive hypothesis. Already, in 1906, Stalin had written:

"According to dialectics, small quantitative changes lead in the end to big qualitative changes . . . This is attested to in biology by the neo-Lamarckian theory, to which neo-Darwinism yields precedence."

VIII. Soviet biology in the thirties was featured by the astonishing rise to power of Trofim Denisovitch Lysenko, a plant breeder of undoubted success, who became, and still is, Head of the Institute of Genetics of the Soviet Academy of Sciences, and President of the Lenin Academy of Agricultural Sciences. He is a neo-lamarckian and makes no bones about it. During his rise to power he has managed to annihilate all his neo-darwinian opponents, maintaining that they are not true darwinists, since they deny what he considers the basic tenet of darwinism, the inheritance of acquired characters.

In August 1948, there took place in Moscow the famous session of the Lenin Academy of Agricultural Sciences, devoted

ed to a consideration of "The situation in biological science". This turned out to be not a debate, but a trial, a trial of neo-darwinism and of neo-darwinists. While the language of the debate was couched in a scientific jargon, the debate itself was an illustration of our minor dialectic, since it was a struggle between a scientific theory on the one hand and a dogmatic orthodoxy on the other. Lysenko and his followers used every rhetorical trick: appeals to emotion, resort to open fraud (as for example, when the Lysenkoist Gluschenko cited directed transformation in pneumococcus and the Bittner milk factor in mice as examples of a "breach in the conception of Morganism"), citation of shoddy experiments which even Kammerer or MacBride would have hesitated to use as examples of lamarckism, (indeed, the experiments of Kammerer are cited as well!), and merciless personal attacks on their opponents, including heckling of the Hyde Park Corner type. As an example of this, I shall cite only one example: P. M. Zhukovsky, a geneticist and neo-darwinian, has been talking about the sterility of triploid plants, such as bananas, which are seedless:

"They cannot be used for crossing. Usually they do not produce seeds.

SS Perov: What have the genes to do with this?

P. M. Zhukovsky: I am not talking about genes, I am talking about chromosomes. Evidently you don't understand this, Sergei Stepanovitch. (Laughter) . . . Academician Lysenko, send one of your assistants to the tropical zone of the globe, and let him there train bananas to produce seeds. You are all fond of bananas, they are valued because they are seedless.

Lysenko: As President of the Academy, I, of course, can accept orders from our agricultural industry and from the Ministry of Agriculture. From members of the Academy I can accept proposals, but not orders.

Zhukovsky: That was not a happy expression. Well, I'll withdraw it. But you are beginning to interrupt . . . Trofim

Denisovitch, you never use the term 'mutation', you refuse to recognize it. But we do recognize it. And nature supplies the organic world with mutations almost without limit. What causes mutations? On this point, I am entirely with you, Academician Lysenko,: environment, external conditions cause mutations. You call it training. But that is beside the point. You refuse to admit that these mutations are caused by changes in the chromosome. That is where we disagree. It has gone so far that the very mention of the word 'mutation' or 'chromosome' frightens many people. A certain author, I forget who it was, described a maiden who blushed at the sight of a roasted capon. (laughter.) As soon as the word chromosome is mentioned some people blush. (laughter.) Our opponents never mention such terms as vitamins, hormones or viruses. I would advise, not you, Trofim Denisovitch, your authority is sufficiently high, but your followers, to study, for knowledge is light, while ignorance is darkness.

Lysenko: Do you apply that to yourself?

Zhukovsky: I am always studying.

Lysenko: You don't study very hard.

Zhukovsky: If you knew how I live, you would know that I do study very hard, I study every day.

Perov: You only read books : . . .

Zhukovsky: I must say that the pressure — the great, perhaps just, but powerful pressure that is being systematically brought to bear upon the representatives of the other trend (i.e., neo-darwinians, J. G. K.) will lead to the extinction of volcanoes, and that we will soon see a number of extinct volcanoes . . .

Perov: Mud volcanoes . . ."

At the end of the Congress, T. D. Lysenko rose to make his concluding remarks. The first paragraph of his statement follows:

"Comrades, before I pass to my concluding remarks, I consider it my duty to make the following statement:

The question is asked in one of the notes handed me, What is the attitude of the Central Committee of the Party to my report? I answer, the Central Committee of the Party examined my report, and approved it. (Stormy applause. Ovation. All rise.)"

His statement concludes:

"Long live the Michurin teaching, which shows us how to transform living nature for the benefit of the Soviet people! Long live the party of Lenin and Stalin which discovered Michurin for the world (applause) and created all the conditions for the progress of the advanced materialist biology in our country. (Applause). Glory to the great friend and protagonist of science, our leader and teacher, Comrade Stalin (all rise. Prolonged applause.)"

The next speaker was Academician Zhukovsky. He said,

"The speech I made the day before yesterday, at a time when the Central Committee of the Party had drawn a dividing line between the two trends in biological science, was unworthy of a member of the Communist Party and of a Soviet scientist. I admit that the position I held was wrong."

Presumably Zhukovsky now thought that one can cross bananas, and that there are no such things as mutations, or that, like some medieval scholars, his position had been scientifically correct, but philosophically false.

During the years after the 20th Party Congress in 1956, when Khrushchev delivered his famous denunciation of Stalin, word became current that Lysenko had slipped from his favoured position. Attacks on him and his methods became once again frequent in the scientific press.

Alas, while I am sure that they who live by the sword will die by the sword, the time is not yet. For in the *Manchester Guardian Weekly*, for Jan. 22, 1959, we learn of a meeting of the Central Committee to which Lysenko had been invited to present his views. He launched into a bitter attack on those who had been criticising him, including the famous bio-

chemist, V. A. Englehardt, Secretary of the Biology Section of the Soviet Academy. Following Lysenko's remarks, the following exchange took place.

"Mustafaev (Azerbaijan party secretary): The situation in biology is especially bad, as was shown in the *Pravda* article which referred to the incomprehensible behaviour of the Botanical Journal and some of our scientists. Instead of criticising each other in a businesslike and scientific way and pointing out faults, the affair has taken on an insulting tone.

Khrushchev: We must take a good look at the staff. Evidently people were selected for the editorship who are opposed to Michurinist science. While they remain nothing will change. They must be changed and others put in — real Michurinists. Here lies the basic solution to the question.

Mustafaev: Nikita Sergeevich, it is not only this journal that uses this tone. Sometimes scientists who are also party members give no thought to how they should conduct themselves. Not long ago unpleasant rumours reached me that our delegation in China, among whom there were some biologists, declared that Comrade Lysenko was finished now, not only in theory but also in fact.

Khrushchev: It was Tsistin who said that. (Tsistin, a noted Soviet biologist, has been vice-chairman of the Academy of Agricultural Sciences and Director of the Moscow Agricultural Exhibition).

Mustafaev: That's bad. If they have bad personal relations, it still does not give anybody the right to deprecate the achievements of our science.

Khrushchev: He should have been asked at a party meeting why he had spoken in this way, and he should have been made to answer in his capacity as a party member. (Cries of 'Hear! Hear!')

The consequences were not long in coming.

"On 20 January, Moscow radio reported that the Botanical Journal's editorial board had been dismissed and that the

U.S.S.R. Academy of Sciences Biological Department was to be 'improved'. V. N. Sukachev, an academician, was replaced as editor of the *Botanical Journal* by V. F. Kuprevich, president of the Byelo-Russian Academy of Sciences. Further, at a joint meeting of the Soviet Academy's presidium and Biological Department, V. A. Englehardt, secretary of the Biology Department, formally acknowledged that criticism of his department had been 'correct'."

One curious aftermath of the Lysenko affair merits mention. In 1949, a young Associate Professor of Chemistry at Oregon State College, Dr. Ralph W. Spitzer, wrote a letter to the Editor of the *Chemical and Engineering News* in answer to an editorial in that journal. In his letter he suggested that the experiments of Lysenko deserved the serious attention of Western scientists, and that they should be repeated. (One is reminded of the constant cry of MacBride that someone should try to repeat Kammerer's experiments, and of Bateson's rejoinder that it was noteworthy that lamarckians were constantly urging others to repeat such experiments but were always too busy to do it themselves).

As a result of this letter, President A. L. Strand of Oregon State College fired Spitzer, issuing a long statement at the same time, from which I have culled the following gems:

"However elusive it may be in certain parts, the purport of his letter cannot be escaped or misunderstood. He supports the charlatan Lysenko in preference to what he must know to be the truth . . . One might reasonably expect, if Dr. Spitzer ever departed from Communist party policy, that it would be in science, where the truth is more easily ascer-

tainable than, say, in the social sciences. When he held to the party line in this particular case, the incident takes on unusual significance. Did someone mention academic freedom? How about freedom from party-line compulsion? Any scientist who has such poor power of discrimination so as to choose Lysenko's Michurin genetics against all the weight of evidence against it is not much of a scientist, or a priori, has lost the freedom that an instructor and an investigator should possess."

That Spitzer had lost his freedom of thought by recommending that Western scientists examine Lysenko's claim is a debatable proposition, but that he lost his job as a result is, alas, a certainty.

And so, our minor dialectic, the struggle between evolutionary theory and authority pursues itself on both sides of the iron curtain. And as for our major dialectic, we may say that it has been temporarily resolved: in the Soviet Union, the environment induces adaptive responses directly, without resort to unscientific chance mutations and bourgeois genes; in the West, genes undergo spontaneous mutation, consistent with our notions of free enterprise, and the environment eliminates the unfit, and allows the fit unlimited scope to display their superiority, as befits a competitive capitalist society.

For Western scientists, it is certain that the major dialectic in Russia would not have been resolved in favour of the neolamarckists had not the minor dialectic been resolved in favour of party orthodoxy.

Both dialectics, whose beginnings go back more than two centuries, must thus continue.

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Reactions to Local Anaesthetics**

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Like any other useful drugs, the local anaesthetics so widely used in dentistry, sometimes provoke undesirable clinical phenomena: so-called "reactions". Some of these are related to the anaesthetic activity of the drug: toxic reactions; some have no relation to the pharmacologic anaesthetic activity: e.g., nervous syncope, or allergic reactions. Some affect the dentist, and some the patient. Some constitute a nuisance and some a hazard. Nuisance and hazard alike they are inseparable from the use of the local anaesthetics. There is no way of avoiding them entirely, so long as the present agents are used. Therefore, it is necessary that we study them, classify them, and become thoroughly familiar with their characteristics, so as to identify them rapidly when they do occur and thereby treat them appropriately.

To my knowledge, there is not in the dental literature today any extensive and careful study of the incidence and relative frequency of the various types of reaction that occur following the injection of local anaesthetics in dental prac-

tice. This obviously would be a study that could only be carried out by dentists and for dentists — presumably best as a function of a University and/or hospital dental clinic. When we turn for help to some of the good modern texts on medical anaesthesiology we get a little. But we find an imperfectly delineated picture of these reactions compounded by occasional errors of fact — particularly in the latter regard where the allergic and/or syncopal types of reaction are under discussion. In the absence of the desired information I can discuss these reactions in general terms only. You may then abstract from my general comments such information as appears applicable to your particular practice, and ignore the rest.

To begin, we may divide reactions into two types: *local* and *general*. The local reactions are of lesser significance qualitatively, that is from the point of view of constituting a hazard. I have, as I said, no way of knowing *quantitatively* how frequently they are a nuisance to patients and dentists.

LOCAL REACTIONS

A chronic scaly itching eczematoid rash may appear on the fingers and hands of dentists after frequent contact with local anaesthetics. This is an example of the "delayed" type contact allergic sensitivity,

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** Presented at London and District Dental Society Meeting, February 13, 1960.

It is exactly similar to the rash of poison ivy in its mechanism, though less acute in its manifestations. It was recognized years ago (1) as a fairly common occupational hazard of dentists, associated with the use of Procaine. It may occur with any of the anaesthetics, but presumably these are less potent sensitizers now; at least allergists do not see the condition as frequently as they used to 10 or 20 years ago, before Procaine had been supplanted by the more newly synthesized local anaesthetics. This dermatitis can easily be controlled by appropriate topical therapy and/or switching to chemically different anaesthetic agents*. The choice of apparently safe anaesthetics may be expedited with the use of the "patch" test on the skin.

The second—and only other local—reaction worth mentioning affects the patient (2, 3). This is a large red indurated swelling of the infected area that comes on 8-24 hours after injection of the anaesthetic, generally reaching its maximum in 48 to 72 hours. At this time there may be an acute vesicular eruption of the overlying skin. The whole thing subsides completely after 3 to 10 days. It recurs every time that individual gets an injection of the same anaesthetic, and gets progressively worse each time. It may be accompanied by a fever if quite acute. In its most severe form, it may involve the patient's whole body with an exfoliative dermatitis. It may be mistaken for an infectious cellulitis or abscess. Actually, it is identical with the dentist's allergic dermatitis — described above. Its appearance is modified by the fact that it occurs within the tissues, rather than upon the surface of the skin. Such sensitivity can be detected beforehand by a "patch" or intradermal test (just like the T.B. test done on our school children) using the anaesthetic on the patient's skin. It can be treated, if severe enough, by

adrenalcorticoid therapy—though *not* by antihistamine drugs. But the main way to deal with it is to avoid the cause, by switching to a chemically different anaesthetic agent. The same allergy patch test may be helpful in selecting from a list of possible substitutes those that do not show cross-reactivity with the original offender, i.e., which would be safe alternatives for that particular patient. It is important that the patient be told what he is allergic to. If such an anaesthetic should be given intraspinally at a later date it can cause prolonged coma, possibly death. Instances of this have been reported (2). It is also important to recognize that such an allergy to procaine, for example, may also extend to other chemically similar drugs such as sulphonamides (4) and that the latter should be avoided too in dealing with such a sensitive case.

GENERAL REACTIONS

Now those reactions which I would suppose to be of major interest to you, are the *general* reactions. Possibly they are more frequent. Certainly some of these may be very alarming, or even fatal. These general reactions are of 4 types:

- (1) The nervous faint.
- (2) Toxic anaesthetic overdose.
- (3) Epinephrine overdose.
- (4) The anaphylactic or allergic reaction which in its most severe form would be called anaphylactic shock.

Other untoward incidents can occur following the exhibition of local anaesthetics, such as a heart attack, stroke, or an attack of ventricular fibrillation; but I think we would lose sight of the woods for the trees if we included all these accidents of lesser frequency and significance. Only 2 of the above mentioned 4 major reactions need to be treated with any sort of "antidote"; but these 2 must be promptly identified for they can be fatal. One does not need any complicated apparatus to rapidly diagnose which sort of reaction is occur-

* Of the 6 local anaesthetics most commonly used by dentists in this area, all but lidocaine are derivatives of p-amino-benzoic acid and therefore likely to cross react with each other.

ring. The only requirements are a blood pressure cuff and the examiner's consideration of 10 clinical phenomena:

1. Patient's speech
2. His level of consciousness
3. Presence of tremors or convulsions
4. Color of the face and ears and presence of perspiration
5. Respiration
6. Pulse
7. Blood pressure
8. Appearance of the skin
9. Appearance of lips and tongue
10. Presence of any nausea or vomiting

Let us consider the general reactions in terms of these 10 clinical features*.

Fainting or vasovagal syncope

This is of nervous origin and must certainly be far and away the commonest reaction seen in the dentist's office. It has nothing to do with the pharmacological effect of the local anaesthetic. It is due to a sudden reflex pooling of the blood in the dilated small vessels in the legs and lower part of the body. As a result the brain does not have enough blood, and one loses consciousness due to anoxia. The attack comes on either before the injection at the first sight of the needle, or within minutes after the injection has been given.

Diagnosis

The patient will complain of feeling "sick or weak, or dizzy or faint".

He may complain of nausea and may actually vomit.

Respiration will usually be normal, although the occasional case will show nervous hyperventilation.

The face becomes *sweaty*, and very pale. The pulse *slows*, and a fall in blood pressure occurs.

As the attack progresses over the next 2 or 3 minutes, if the patient is seated, he will gradually lose consciousness and slump to the floor.

Convulsions are not a feature unless the patient is forcibly maintained in the vertical position, thus producing severe anoxia of the brain, with consequent brain damage.

Treatment

The treatment is to get the head down and the feet up — horizontal at least, but preferably with the feet higher than the head; wait 10 minutes or so for the episode to pass off; reassure the patient; and go on about the job. Nothing else: no oxygen, no smelling salts, no whiskey or other stimulants are required. The treatment is so simple and so rapidly effective that it is important to recognize that a very important cause of *death or irreparable brain damage* in the dentist's chair lies in keeping the patient upright in a seated position during a faint. The human brain can stand only 2 minutes of anoxia. 2½ minutes is too much (6). The supine position must be adopted before the faint is more than 2 minutes old. After that you may fiddle with oxygen or anything else. The important part of the treatment has been completed.

As an aside I might mention, although this is not directly apropos of local anaesthesia, that every dentist using gas anaesthesia should be familiar with the article by Dr. J. G. Bourne, an English anaesthetist, entitled "Fainting and Cerebral Damage: a Danger in Patients Kept Upright During Dental Anaesthesia and After Surgical Operations" (6). If dentists made it a practice to always administer any anaesthetic with the patient in a horizontal position, this collapse with loss

* Some oversimplification is inevitable in attempting to present the features of these various reactions in a few static vignettes. Each is of course not static, but a dynamic process that evolves to its maximal expression and then subsides; and it is possible for more than one of these mechanisms to be operative in the reaction of a particular patient. Better understanding of the phenomena we are considering will be obtained by studying the following references (5, 6, 7, 8, 9, 10, 11).

of consciousness would never occur. It could not occur. The faint would develop, i.e. the facial pallor, slow pulse, nausea, complaints of malaise, fall in blood pressure; but there would be no disturbance of the consciousness — unless, of course, one became too impatient to wait 10 minutes for the episode to pass off, sat the patient up, produced brain anaemia, and thereby promptly produced the loss of consciousness. Premedication with a barbiturate and/or tranquillizer may also be a simple and useful prophylactic measure in dealing with patients who are prone to experience these attacks repeatedly.

Toxic overdose of anaesthetic

Next to the nervous or vasovagal syncope, these are certainly the most common complication of local anaesthesia; probably at least 10 times more common than the true allergic reaction. They represent a general systemic effect of the "local" anaesthetic and their severity is a function of the blood level of the drug relative to the particular individual's tolerance for the drug. Every person who gives enough anaesthetics sees these cases. They begin about 4 to 10 minutes after injection, and may take three forms:⁷

- (a) Mild stimulation of the central nervous system, manifested by excitement, confusion, apprehension — often misdiagnosed as "hysteria" by inexperienced practitioners.
- (b) Maximal stimulation of the central nervous system — which is just a more advanced stage of the first: twitching of the face, hands or feet, going on to convulsive seizures, coma and possible death.
- (c) Depression of the central nervous system: this also may be a mild or maximal i.e. ranging in degree from a transient stupor with a fall in respiration and pulse rate to deep coma or cardio-respiratory arrest. It may occur in the occasional case as an *alternative* to the

central nervous system stimulation, or more usually, as the most extreme stage of the stimulation phase, i.e. a stage of exhaustion of the over-stimulated central nervous system's vital centers.

Diagnosis

One should keep up a running conversation with the patient during administration of the anaesthetic. If stimulation of the central nervous system begins, it will be readily apparent then that the patient's speech becomes garrulous, perhaps very apprehensive, and confused. Or, in the event of central nervous system depression, he may be observed to suddenly cease speaking, or to fail to answer a question.

Premonitory nausea is quite uncommon, in contrast to its frequency with nervous syncope.

After the initial excited stage he may gradually become drowsy and sleepy. "When a patient who has been restless and difficult to block suddenly becomes quiet, the anaesthetist should not draw a sigh of relief, believing that at last the patient has become co-operative. On the contrary, the anaesthetist should immediately become suspicious that a reaction is taking place and make a positive diagnosis without delay."¹³

Twitching of the face precedes actual convulsions.

The face is pale, and with a convulsion becomes cyanotic.

Respirations are normal at first, but eventually the central nervous system depression will slow them, and cause them to become irregular, and eventually stop completely.

Pulse speeds at first, and with the onset of depression it weakens till it can no longer be felt.

Blood pressure rises a little at first and then drops off to zero.

Skin and lips, aside from the facial pallor, show no particular abnormality.

Treatment

At the first premonitory signs of excitement administration of the anaesthetic must be stopped immediately. Treatment must be immediate. The premonitory signs of twitching or tremors, or the convulsions themselves, must be stopped with intravenous short-acting barbiturates: Pentothal 4 to 10 cc. of 2½% solution; Secobarbital 150-250 mgs.; Sodium amytal 400-800 mgs. This intravenous barbiturate does not *neutralize* the anaesthetic. Once you have put *that* in, there is nothing you can do about neutralizing or destroying it. You can only control the toxic manifestations as they appear in sequence while you wait for the body to detoxify the anaesthetic by itself. Further, one must keep in mind that the barbiturates antagonize only the central nervous system stimulation. They should not be used for reactions characterized by depression, coma, respiratory or circulatory arrest. Also, remember that it takes 3 or 4 minutes for the intravenous barbiturate to act. During this interval excitement or convulsions persist. Do not continue to give the barbiturate all through this period. Just give your estimated dose; wait 4 minutes to let it act before giving more.

If respirations have stopped you *must* keep the patient alive until they start again. This can be done *only* with artificial respiration. There is no value in giving so-called respiratory stimulants such as Coramine or Nikethamide, or administering oxygen without the artificial respiration.

The collapse in blood pressure must be reversed by starting an intravenous of 500 cc. saline containing 4 mgs. Levophed. Since this may bring the blood pressure level up within a minute or so one must carefully watch the blood pressure level in order not to overcorrect.

If you have done these 3 things, you have done everything that can be done. With luck the patient will revive within 5 to 15 minutes. If he is not reviving the ambulance should be called while the artificial respiration is continued.

The hazard of these reactions can be expected to be greater with large doses and/or small people, or those people with a low seizure threshold, i.e. with a personal or family history of epilepsy; or with injection into a highly vascularized (infected) area thus permitting absorption of the drug too rapidly for tolerance. While barbiturate premedication is not practical for general use by the dentist, in selected cases where the above-mentioned risk factors are present, barbiturate premedication is said to offer a large margin of safety against such toxic overdose reactions.

Epinephrine overdose

This must be an exceedingly rare phenomenon in the dentist's office, since I am told that amounts of local anaesthetic greater than 4.0 cc. are hardly ever injected. Amounts of the order of 4.0 cc. would give a dose of 4/100ths to 8/100ths of a milligram of epinephrine. Epinephrine in this dosage would not be expected to produce noticeable symptoms, though conceivably it *may* in small children. With doses greater than 4.0 cc. however, one can expect to produce in the occasional person the normal physiological effects of epinephrine injection.⁷ These effects come on about 2 to 4 minutes after injection.

Diagnosis

The patient may complain of feeling "shaky, trembly, weak", and of a forceful pounding of the heart.

The face always becomes dead white due to vasoconstriction, but there is no sweating—unlike the faint.

The pulse speeds and is forceful, not weak and slow.

The systolic blood pressure rises.

Although the occasional person may become frightened and start to nervously hyperventilate, most patient's respira-

tion will remain unchanged, i.e. normal. Gastrointestinal disturbances, clouding of consciousness, fainting or convulsions do not occur. In fact, the patient feels wide awake. A coarse tremor of the hands is conspicuous.

Treatment

The treatment is to reassure the patient and wait 5 or 10 minutes until the effect has worn off. No other treatment is necessary. The next time use less anaesthetic, or choose one with less epinephrine in it: say 1:100,000 concentration instead of 1:50,000. Dental supply houses in this area market local anaesthetics with epinephrine concentrations ranging from 1:200,000 up to 1:50,000. The efficiency of concentrations stronger than 1:200,000 has been questioned.¹⁶ Further, they are said to unnecessarily increase the risk in dental practice of secondary haemorrhage and to provoke a reactive hyperaemia causing severe pain 2 to 3 hours after tooth extraction^{16*}.

Anaphylactic reaction

This is an "immediate type" allergic reaction coming on 2 minutes to 2 hours after the injection of the anaesthetic.** It is very much less frequent than the 3 other major types of post anaesthetic complication. A reaction beginning later than 10 minutes after the injection is most likely allergic. The most severe anaphylactic reactions though, can come on almost immediately after the injection.

Diagnosis

The patient might begin to speak thickly or hoarsely due to the acute, pale edematous swelling of the tongue and lips. More frequently he will complain of a little "tightness in the chest". He usually does not complain of nausea. He will almost invariably develop first an unproductive paroxysmal cough, and

is then likely to become short of breath with difficulty and prolongation of expiration and audible wheezing. This may rapidly progress within a few seconds or minutes to a frank asthmatic paroxysm, or pulmonary oedema. In contrast to all the other severe reactions, he sits bolt upright gasping and choking for air.

One of his first complaints will be of itching and tickling about the lips, palms of the hands, axillae, and then over the whole body.

First the ears and then the face become red (in contrast to the pallor of all the other types of reaction). With severe dyspnoea the face soon becomes cyanotic. Urticarial wheals and angioedema, i.e. swelling of the subcutaneous tissue, may appear on the face and/or may suddenly crop out over the whole body. The pulse rate is normal, although with more severe reactions it will speed up and become a little weak.

The blood pressure remains normal except in the more severe form of allergic shock, when it falls.

There is no disturbance of consciousness, unless the reaction progresses over the space of 2 to 10 minutes to a severe shock stage with fall in blood pressure, in which case he will lose consciousness and may die rapidly.

Convulsions and tremors are not present.

* Information obtained from local distributors of dental anaesthetics would indicate that in this area the vast majority of the anaesthetics used contain epinephrine in concentrations of 1:125,000 to 1:50,000; Cobefrin 1:10,000 or Leverterenol 1:30,000. Information from the manufacturers of one of the most frequently used local anaesthetics, which is available in Canada in solution with epinephrine in either 1:100,000 or 1:50,000 concentrations, indicates that the weaker solution is used more than 10 times as frequently as the stronger one.

** Immediate type in this sense—and also Delayed type as used in discussing local reactions above, has no reference to the interval between the injection of the drug and the onset of allergic symptoms. These are the descriptive names of the two major types of allergic inflammatory response (8, 12) and refer to the period required for the prototype skin test response to reach maximal expression — a period of 20 minutes for the immediate type; 48 hours for the delayed type of allergy.

Treatment

The mainstay of treatment for this type of reaction is epinephrine. Give 0.4 cc. of aqueous epinephrine 1:1000 subcutaneously *immediately*, and repeat every 5 to 10 minutes up to 4 or 5 doses, until the patient reports the episode is beginning to subside. After the epinephrine has been injected you may give oral or injectable antihistamines (Chlor-Tripolon 5-10 mgs. subcutaneously or intramuscularly) and oral ephedrine compounds (Tedral, Amesec, etc.). Do not attempt to make the patient lie down. The only way he can breathe at all is sitting bolt upright. Do *not* give barbiturates, morphine, or respiratory stimulants. If the patient goes rapidly into shock he should be treated, as described above, to restore the blood pressure.*

After the initial reaction is controlled he should be kept under close observation for 12 to 24 hours, in hospital if necessary, since the whole episode may recur 1 or 2 hours later at home or in the car, when the epinephrine effect has worn off. Should the attack be uncontrollable in 15 to 25 minutes with the prompt administration of epinephrine, it is likely that you are going to lose this patient. If oxygen by mask is available, this should be given. If the respirations stop he should be given artificial respiration while the ambulance arrives to take him to hospital. Any patient developing even a minor reaction of this sort should never receive this sort of local anaesthetic

again, as even minute test doses could produce fatality. This type of reaction is likely to occur in allergic individuals, i.e. patients with a history of hay fever and asthma and perhaps other drug allergies. It will come on *after* they have received one or two previous injections of that particular local anaesthetic *without any reaction at all*. It is an acquired drug allergy. Skin tests are of *no* value in predicting such a reaction. Trial doses are dangerous if one uses anything stronger than a dilution of the anaesthetic of the order of 1:1,000,000.

CONCLUSION

To recapitulate the major points: there are 4 major types of reaction following the administration of local anaesthetics. Listed in order from the most frequent to the least frequent, they are: the nervous faint, toxic overdose of anaesthetic epinephrine overdose, and anaphylactic or allergic reaction.

Three practices are essential for all responsible practitioners using local anaesthetics:

1. A history must be elicited from the patient re any previous reactions to anaesthetics, or tendency for any allergic or convulsive disorders, or associated debilitating illness. If suspicious enough, the patient should be premedicated with barbiturates, or some other form of anaesthesia should be used.
2. The patient should be placed in the horizontal position before beginning to infiltrate the local anaesthetic, and a blood pressure cuff should be placed on his arm.
3. Local anaesthetics should never be used unless the following are at hand for immediate use:
 - (a) Short-acting injectable barbiturates, such as Seconal.
 - (b) A vasopressor, such as Levophed.
 - (c) An artificial respiration appar-

* It is commonly recommended nowadays that an adrenocortical steroid hormone such as soluble hydrocortisone be administered intravenously as an emergency measure in such situations. Animal experiments have clearly indicated that cortisone cannot inhibit either anaphylactic shock or anaphylactic sensitization in the guinea pig, although it can suppress deaths from shock in the mouse (14, 15). Whether man behaves more like a mouse than a pig in this respect is not entirely clear at this time. Although it is certainly of value in the treatment of shock due to acute adrenal cortical insufficiency, its value in shock due to other causes is not proved beyond all doubt. Its use in the latter conditions would appear to be an example of sympathetic magic. I know of no harm that it could do, unless other more important measures were neglected because of false reliance on the intravenous hydrocortisone.

atus. Oxygen may occasionally be helpful, but is not an essential like the artificial respiration apparatus.

I would like to make 3 further suggestions:

(1) that the patient be kept under direct observation for some 15 minutes at least following the local anaesthetic injection. Despite differences in their mechanism types 1, 2, and 4 can all lead over a period of 15 minutes or so to the same end result: an unconscious patient whose life may be in jeopardy. Quite evidently, since the mode of onset of any particular reaction can be important in identifying which type is occurring, the patient ought not to be left alone during this interval. Differential diagnosis is then a good deal easier than if one is suddenly presented with an unconscious patient with no exact knowledge of how he got that way. Correct treatment depends upon correct diagnosis.

(2) that dentists adopt the practice, generally recommended by medical anaesthetists, of aspirating before each injection of local anaesthetic so as to be sure the injection is not going intravascularly. Dental supply houses can supply syringes which would permit this maneuver if the demand became sufficient—and it would minimize the risk of the latter 3 types of reaction discussed.

(3) that the following items be included in an emergency reaction tray, to be kept at hand at all times:

1. Epinephrine (aqueous) 1:1000-6-1 cc. ampoules.
2. Secobarbital: 1-20 cc. ampoule of 50 mgs./cc. concentration.
3. Levophed: 1-4 cc. ampoule (4 mgs.)
4. Chlor-Tripolon solution: 2 cc. of the 100 mgs/cc. concentration.

5. 500 cc. of normal saline in a sterile Baxter or Abbott bottle.
6. One disposable set for giving intravenous solutions, such as the Venopak.
7. A tourniquet, and alcohol cotton sponges.

- | | |
|--------------------|---|
| 8. 1 cc. syringe | } sterily wrapped with some #26 and #20 needles |
| 9. 5 cc. syringe | |
| 10. 20 cc. syringe | |

11. The phone numbers of the nearest ambulances.
13. A direct artificial respiration equivalents for the barbiturates and Levophed that you may require to use — perhaps with the syringe volume markings too — to save hurried arithmetic and possible error.
12. A direct artificial respiration apparatus (D.A.R.). Several different types have recently been developed, any of which is mechanically more efficient than manual methods in producing ventilation of the lungs of a patient who has stopped breathing. Of the bellows type an excellent example is the Ruben Resuscitator. This is a small portable, bag and mask for applying intermittent positive pressure which is extremely easy to use and which is obtainable from British Oxygen of Canada, Limited, in Toronto. It is fully described in the first issue of the Canadian Medical Association Journal of 1959.¹⁷ It seems likely to become standard equipment in the emergency and recovery rooms of up-to-date hospitals. It is not very expensive.

A mouth to mouth type of apparatus recently developed in Canada is the Brook Airway*, which is considerably cheaper

* Obtainable through Safety Supply Company, Toronto 2, Ontario.

than the Ruben Resuscitator. The correct usage of methods of D.A.R. with particular emphasis on the Brook Airway has been lucidly described recently.¹⁸ A comparison of the relative efficiencies of these two types of equipment for D.A.R. has been published by Lucas and Whitcher.¹⁹

APPENDIX

If percentages of the various types of reactions could be developed from a small scale, careful survey, these figures could be applied to the absolute numbers of local anaesthetics administered per year, and thereby furnish some idea of the absolute numbers of these reactions occurring annually. A reasonable estimate of the total sum of local anaesthetic cartridges used by dentists in Canada per year lies in the region of 6.5 to 7.5 million. This estimate is based on the survey conducted by Oral Health Magazine in 1959, modified in light of confidential information obtained from several pharmaceutical companies who manufacture and distribute local anaesthetics to dentists in Canada.

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Victoria Hospital

The Sectional Groups invite all C.D.A. members to attend both morning and afternoon sessions on Sunday, sponsored by The Orthodontic Section of the C.D.A., The Canadian Academy of Oral Surgeons and The Canadian Academy of Periodontology.

Dental Psychotherapy

RALPH M. SINGER, D.D.S., *Toronto, Ontario*

For many centuries dental treatment has been associated in the public mind with acute pain. As a corollary, dentists have been particularly interested in methods to relieve pain. Thus, it is noteworthy that two dentists, Dr. Wells in 1844 and Dr. Morton in 1846, respectively, pioneered the use of nitrous oxide and ether. Dr. Nathan Cooley Keep, a dentist, one of the founders and the first dean of Harvard School of Dentistry, was first to report the use of an anesthetic for childbirth.

It is remarkable that dentists should have been forced, by public opinion, to pioneer the use of anesthetics for, painful though a tooth extraction may have been without anesthetic, it is dubious whether it matches in exquisite agony the removal of a toe, or even a toenail! Perhaps public opinion is now forcing dentists to pioneer a type of psychotherapy.

It is not the primary purpose of this paper to investigate why the public chooses to associate dentistry with pain. It may be that the dental patient is much less afraid of dying than the surgical patient and so has no overwhelming worry to "take his mind off it." Whatever the reason, few dentists would challenge the assertion that the public finds as many causes of tension and apprehension in a dental office as a superstitious Irishman sees Leprechauns in Kilkenny.

Today, painless dentistry has progressed very far indeed. Thanks to anesthesia,

high speed drills and other advances, unbiased patients admit that they feel virtually no pain in most operations. The problem of tension and anxiety has not been equally successfully dealt with and, despite the absence of real pain, patients continue to shun the dental chair. As many as two-thirds of all patients, in our experience report a considerable degree of tension. Some 10 per cent suffer from gagging or other manifestation which practically precludes (without the adoption of special measures) the practise of fully efficient dentistry. Not all these manifestations are necessarily the result of tension but many of them probably are.

Dentistry has probably gone about as far as it can go in alleviating tension by relieving the pain at the site of the operation. In further endeavors to alleviate tension it is clear that dentists must take up some method that helps remove apprehension and induce relaxation.

NEED FOR PSYCHOTHERAPY IN DENTISTRY

Psychogenic disorders which interfere with dental treatment can be divided into four main classes.

The first are those dental ailments in which psychogenic factors may be a major consideration, either as a cause or treatment interference and which have organic ramifications. Habits such as thumb-sucking, cheek biting, lip sucking and oral

lesions such as herpes simplex, erythema multiforma and stomatitis venenta, are examples of this type of complaint.

The second are the behavior disturbances which prevent or interfere with the carrying out of treatment after the patient has entered the office. Prominent are gagging, syncope reactions (fainting), psychogenic allergy to drugs, panic reaction, discomforts in position, excessive salivation and the entire gamut of anxiety reactions, together with the acute anxiety produced by phobias of specific dental procedures.

The third class constitutes the anxiety reactions caused before the patient comes to the office. These may take the form of sleeplessness, nausea or diarrhea, which may begin in anticipation of the appointment and may continue for several days after it. Problems of this sort may prevent patients having their teeth attended to at all.

The fourth, and final class, includes all those stresses caused by the patient's interpretation of the dental treatment. Extraction of teeth may signify to him that he is growing old, is less manly, will be unable to carry on his occupation, and in cases where a patient in this frame of mind is not properly prepared for treatment, a psychosis may be precipitated.

Though the dentist's primary purpose may lie within the mouth, he cannot ignore the rest of the body and the mind. They intrude too much upon his practise.

THE HOLISTIC CONCEPT

More than 23 centuries ago Plato said that "the great error of our day in the treatment of the human body (is) that physicians separate the soul from the body."

Today, we hear much of *psychosomatic medicine* and it appears that we are realizing at last the truth of Plato's statement. Yet the term *psychosomatic* is an unfortunate one, tending to perpetuate the outmoded dualism of mind and body, which is exactly the opposite of what is intended.

In addition, the term has often been restricted to so-called "psychosomatic disorders" — physical illness such as peptic ulcers or bruxism — in which the emotional factors play an important role in the onset and course of the disorder, and in which organic changes appear.

The term *holistic* is perhaps to be preferred to psychosomatic in discussing this viewpoint, although the two are roughly synonymous, both referring to a unified view of the organism as a functional unit inextricably immersed in a physical and socio-cultural environment. The terms comprehensive medicine, organismic medicine and medical psychology are sometimes found in the literature to express this viewpoint.

The fact that personality cannot be divorced from the body, that it is a part of the individual's very existence makes it evident that psychosomatics cannot, and should not, be thought of as a specialty but rather as a concept which may be applied to all medicine and dentistry. In all medicine there is a need to understand the patient and to maintain a personal relationship conducive to helping in his treatment. In dentistry this is particularly so because dental treatment on the whole is longer than medical treatment, requires a greater degree of co-operation at the time of treatment and in maintenance if the best results are to be obtained. In addition the problem of neglect is very important in dentistry because few dental diseases, if any, are self healing. Of course psychosomatic dentistry takes cognizance of the physical side of dental illness. There is obviously more to a toothache than just feelings and attitudes.

There is considerable agreement in dentistry about the desirability of the holistic approach to the diagnosis, treatment and prevention of the disease. However, when the question is asked how this can be put into effect there has been, up to the present, no satisfactory answer. Dealing with the unduly apprehensive or anxious patient is the problem we are faced with most frequently and yet it is surprising that this is the subject about which there

is the least reliable information. We do not prescribe drugs by common sense; there is a wealth of information to guide us. We don't diagnose, treat or prevent any other illness without some understanding of what the illness is and what the prognosis would be if it were treated in a particular way. It seems reasonable that there should be a scientific method of tackling the problem with which we are faced most frequently.

APPROACH TO DENTAL PSYCHOTHERAPY

The dentist, in approaching the problem of psychotherapy, is seeking a sound yet relatively simple technique that will enable him to carry out his primary duty in the mouth with more efficiency while making the experience more tolerable for the patient. The concepts we have adopted are by no means new, yet we believe we have adapted them into a simple and practical tool for dentistry. The foundation of our approach is Adlerian psychology.

As a means of gathering basic information we have a simple questionnaire which is filled out by every new patient (there is also a more complicated questionnaire which is used only in certain circumstances).

Without entering any controversy as to the relative merits of various schools of psychology and psychiatry, in my experience, Adlerian psychology is of maximum benefit from the viewpoint of the practising dentist because it provides a practical brief and efficacious tool for understanding the patient.

Hypnosis has been of great value, too, in dental practice. Hypnotherapy has proved a safe, efficient and practical means of alleviating undue anxieties and apprehensions which many patients suffer from.

ADLERIAN PSYCHOLOGY

Alfred Adler, among his other accomplishments, might well be considered the father of modern holistic medicine, for he

showed us a simple way of implementing a doctrine which had remained little more than a dream since Plato's day (and before it).

Man, as perceived by Adler, is an indivisible social being whose every action has a purpose. In this theoretical framework an accurate and rather quick understanding of an individual is available by what may be called the socioteleological approach. It implies the recognition of the human being as a fundamentally social being. All his actions have social significance, all his functions have meaning within his social setting. This realization of the social nature of man is generally associated with another concept, namely man's self-directiveness, his striving for goals which he sets for himself. In this perspective all actions are purposive and their goals are of a social nature. In his goals which bring about his actions, feelings and thoughts, the individual reveals his total personality.

Already, far more psychotherapy than one might realize is, in fact, being practised in dental offices by dentists who have made no special study of the subject, although they may be quite unaware that they are using it and it may be of a very haphazard type. Without psychological effectiveness no dentist could maintain a practice. Thus psychotherapy of a sort is being practised more or less by accident in every dental office now.

Adler provided a definite and rather simple technique for a clear understanding of a person's basic personality pattern, which he called his life style. The life style shows each individual's unique way of meeting his problems. A clear formulation of a person's life style can be obtained through the investigation of his family constellation, which is a sociogram of the group at home during his formative years. Adler also made use of early recollections which coincide with the individual's outlook on life. The interpretation of early recollections constitutes a quick device to be used by the dentist for

uncovering an individual's unconscious attitudes. Following Adler's technique every dentist would be able to understand his patient and perceive that patient's goals. Such understanding should be part of every examination but in particular it is necessary for the dental psychotherapy which every dentist should be able to carry out.

A bad personal relationship between patient and dentist or resistance by the patient to dental treatment implies that the goals of dentist and patient are different. The only thing a dentist needs to do in psychotherapy is to bring the patient's goals into line with his own. In other words, in order to help a patient and know what his goals are you must first understand him. In most serious cases it is necessary to help the patient to understand himself, and eventually to change his outlook, his attitudes, his movement toward life and others. Minor psychotherapy, which every doctor should practise, might be defined as the use of psychotherapeutic techniques to achieve immediate goals without intensive exploration or personality reorientation. All necessary means can be taken to achieve these immediate goals. This definition applied to dentistry means the treatment of a dental patient for a psychogenic disorder by the dentist as incidental to the dental service required of him.

It is neither the dentist's duty nor his need to understand everything about his patients. In most cases he will be satisfied if he can understand the patient in his present situation. It should be the dentist's intention to understand enough about Adlerian psychology that its application becomes second nature to him. He does not often need to take valuable time from dental practice to carry out extensive studies of his patients although it may in certain cases be necessary. He merely takes an intelligent interest in them and his disciplined psychological knowledge will result in a better understanding between himself and his patients.

An example of the value of this approach is the child who resents being

brought to the dentist by a domineering parent. The child resists the dental chair and may scream if attempts are made to force dentistry. If this situation continues over a number of visits the dental experience may become permanently distressing. Why did this child act in so violent a way? Was he really distressed, in the beginning, by the idea of dentistry? No indeed. He was resisting a domineering parent.

The understanding dentist who knows what he is up against may suggest that the child come alone to the dentist next time, or perhaps bring a friend along. The dentist does not directly enter into the situation between parent and child, but he recognizes that it exists and he tactfully brings his own goal (the dental treatment) into line with the child's goal (not to be dominated).

Domination is not the only reason children object to dentistry. The case is offered merely as an example of the way in which a dentist trained in psychotherapy may make things easier for himself, the patient and, in the case of a child, for the parent.

To our knowledge there are at present no dental colleges offering adequate training in psychotherapy. For the practising dentist the best approach toward learning is to seek training from some suitable authority in psychology. If this is not available, then personal study through books will be rewarding.

In 1958 and 1959 a group of dentists who favored the holistic approach obtained the services of distinguished psychiatrists and psychologists under the direct of Dr. Rudolph Dreikurs, of Chicago, who arranged a workshop for them on dental psychotherapy. It is encouraging to see the planning of further workshops.

The workshop concept is important because it is difficult to put theory into practice without some degree of guidance. Early in the workshop Adlerian theory was explained and basic psychodynamic processes were discussed. Sessions of group therapy and psychodrama were

held and proved unusually successful. Every individual has his own unique way of looking at things and of reacting which is his own life style. Dentists, too, have their life style and it proved advantageous to know of these in order to know that they also play a part in a problem situation. Group therapy showed how many facets of the life style could be exposed and how theories learned earlier could be put into practice.

QUESTIONNAIRE

Much information can be elicited from a patient during an initial interview with the dentist or, if he is busy, with the nurse. Casual conversation while he is in the chair can provide valuable data too. However, as starting point, it is useful to have every patient fill out a simple questionnaire. Not all the questions have to do with psychotherapy. It is generally recognized that every doctor and dentist should have basic physical information about his patient and previous treatment, though a great many dentists still do not trouble to obtain such information. Our questionnaire is, therefore, intended to supply all the fundamental information needed. In this article, however, only questions pertaining directly or indirectly to psychotherapy will be dealt with. Some questions give information of value to psychotherapy though they are not primarily intended to do so. For instance, an enquiry is made about medical treatment currently being undertaken. It is not unusual for a patient to be disturbed if he is suffering from a "physical" disease and now and then a patient will reveal that it was worry of some sort that had driven him to seek medical assistance.

The sixth question asks: "Do you suffer from nausea and, if so, under what circumstances?" This can be revealing of personality. The seventh question is: "When did you last receive dental treatment?" and the eighth: "Did you have all advised dental services done and, if

not, why not?" The length of time between dental treatments and the extent of treatment carried out may reveal the presence of apprehension.

The patient is asked directly in the questionnaire: "Are you tensed or relaxed during a dental treatment? Is it your belief that dental treatment must be an uncomfortable and, perhaps, a painful ordeal; and, if so, is that belief a result of your own personal experience or of the warnings or reported experience of others?"

Of hypnosis, the patient is asked: "Would you welcome hypnotherapy (treatment by hypnosis) to relieve nervousness and apprehension, and to induce complete relaxation? Have you received any hypnotic treatment?"

The back page of the questionnaire is left blank to permit patients to fill in any additional information they may wish to communicate. This page is used, in many cases, for early recollections which may be specifically asked for.

HYPNOTHERAPY

Hypnosis is undeniably a potent force. Those who doubt its value and effectiveness should refer to the reports of the British Medical Association and the American Medical Association committees on the subject, published in 1955 and 1958 respectively. Both state that it is of value, may be the treatment of choice in many cases and that there is a place for it in dental operations.

In dentistry, hypnosis has value in a number of ways. It establishes a meaningful patient-dentist relationship. It can be used to tranquilize or relax a patient. In this respect it achieves complete relaxation which is infinitely more far-reaching than what the average nervous patient calls relaxing. Relaxation and release from tension by themselves raise the pain threshold but in some cases complete surgical anaesthesia may be obtained.

It can be used as an anaesthetic or anal-

gesic. In the writer's practice hypnosis is not used often for this purpose for two reasons: (1) that relatively few people can be hypnotized deeply enough without extensive training to achieve anaesthesia; (2) that light hypnosis will usually permit the use of the more convenient, standard methods of anaesthesia. However when, by reason of allergic reaction physical conditions or moral scruple a patient objects to ordinary anaesthetics, hypnosis may prove to be the answer. It may be used as a substitute for or in conjunction with drug therapy. For selected patients hypnosis may be used as the technique of choice for the removal of any psychogenic disorder which interferes with the proper carrying out and the successful conclusion of any dental treatment. Hypnosis is a tool or technique and not itself a method of treatment. It is applicable to any method or form of psychotherapy. It acts as a catalyst, greatly speeding the rapport, contact or transference necessary for the successful outcome of any psychotherapeutic procedure; it may assist in a diagnosis and in cases where support, reassurance or advice are needed these become much more effective; it begins when the patient is ready to listen and to believe.

For most patients hypnotherapy is neither necessary nor recommended. However, it is notable that all patients have an opportunity, through the questionnaire, to say whether they would object to it. It is highly significant that we have found only one patient who seriously objected to it. About 40% said they wanted hypnotherapy, 20% said they would have it if necessary, and 40% replied either that they did not feel they would need it or that they did not want it.

As noted earlier, we practice hypnotherapy only on those patients who require it to complement or to hasten what can be achieved by other methods, and in addition the patient must have requested it. In all, we have so far carried out dental treatments on about 300 hypnotized patients. In no case have we encountered the slightest sign of difficulty

arising from the use of hypnosis and we consider it one of the safest techniques in all medicine. Nevertheless, we believe that hypnotherapy should be practised only by persons with training in the psychodynamics of behavior and this provides us with additional reason for such training.

For most dental purposes it is unnecessary to induce a deep trance. Patients are conscious and able to remember what happened. They are greatly helped to relax and the dental experience is robbed of its unpleasantness.

The use of hypnosis in dentistry received great impetus in the late 1940's, although its use for the painless extraction of teeth was reported as early as 1837 by a French dentist, Dr. Oudet. In recent years many study groups of dentists have sprung up more or less spontaneously, unknown to one another and in different parts of the country. In 1956 the Academy of Applied Psychology in Dentistry was formed as a national organization for the purpose of thus enlarging and improving the facilities and opportunities of their members for the discussion and exchange of helpful information in hypnotic and psychotherapeutic procedures as applicable and desirable in dental practice. These men might be credited with making one of the first organized attempts to introduce a scientific method of psychotherapy into the practice of dentistry. In 1945 The American Academy of Dental Medicine which was formed for somewhat the same purpose, but with more emphasis on the non hypnotic methods of therapy, is now a flourishing organization, publishes a fine Journal and is doing invaluable work in this field.

Based on our studies, the following are some useful techniques in dealing with patients: (1) Don't make a child demand recognition by acting up—give him recognition freely to start with; (2) don't permit the dental situation to be used as a means of a child expressing hostilities to a parent or rivalry to a sibling; (3) use every opportunity to give the patient hon-

est encouragement; (4) keep the patient informed as to the procedures you are taking to look after his interests; interests differ from patient to patient and they are not necessarily of a strictly dental nature; (5) the patient should feel free to respond in any fashion he or she wishes provided this does not interfere with dental treatment; (6) try to pattern the course of the dental treatment to fit what you know of your patient's personality; (7) let the patient express himself — be a good listener; (8) be sensitive to the patient's feelings, both physical and psychological; (9) develop a gentle way of operating and use every mechanical device to add to the patient's comfort; (10) wherever possible follow the patient's wishes as to procedure; (11) use positive suggestion skilfully for the patient's benefit.

CONCLUSIONS

1. There is a readily demonstrated need for a practical way of dealing with the anxieties and apprehensions of dental patients.

2. To be most effective dental psychotherapy, which fills this need, must not be so time-consuming that it interferes with the dentist's primary concern with the oral cavity.

3. Over a period of years we have developed an effective and practical approach, based on the Adlerian theory, which is described.

4. For certain patients we have found hypnotherapy a method of choice. In all patients we have found the technique completely safe. In our experience few patients have strong objections to hypnotherapy.

5. The rapport between dentist and patient, so important for doing fully efficient work and promoting home care and prevention, can best be established by the proper understanding of the patient.

6. Methods described are not original but represent an adaptation of the opinions and studies of many others. The length of a potential list of references is too great to append here but readers who wish to extend their knowledge of this subject are especially referred to:

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CLASS REUNIONS AT C.D.A. CONVENTION

The date is Tuesday, Sept. 27th. Your Committee will arrange the space you need. Contact Dr. John Callingham, 226 O'Connor St., Ottawa 4, Ontario.

The Biophysical Properties of Silver Amalgam —

Its Use and Abuse

ALFRED WEINSTOCK,* *Toronto, Ontario*

There is no doubt that with conscientious use, silver amalgam is an excellent filling material. Not only is silver amalgam the most frequently used material in restorative dentistry, but also there is a lower percentage of failures in restorations made with amalgam than with any other restorative material. However, there are many amalgam failures. Everything that is done from the time that the cavity preparation is made until the restoration has been polished has a very important effect on its physical properties and the success or failure of the restoration. A recent investigation has shown that improper cavity preparation is the causative factor in approximately 56% of all amalgam failures, while faulty manipulation of the alloy, or its contamination at the time of insertion accounts for approximately 40% of all failures. Many failures can be attributed to fracture, which is caused by (i) improper cavity preparation (ii) faulty manipulation. Mechanical amalgamators and automatic condensers induce a slight expansion, but this will be negligible if expansion on account of moisture is eliminated. Amalgam with a High Flow Value is likely to result, under

the forces of mastication, in failures such as flattened contact points, overhanging margins and slight protrusion from the cavity preparation.

One of the first requisites of any metal or alloy to be used in the mouth is that it will not tarnish or corrode in mouth fluids. The conditions in the mouth are very conducive to corrosion. The mouth is wet and warm and almost every conceivable condition of acidity and alkalinity can exist during ingestion. Food debris often adheres to a metallic restoration and a localized condition results which may be extremely conducive to corrosion. Corrosion has been defined as a gradual chemical or electrochemical attack of a metal by the atmosphere, moisture or other agents, while tarnish is considered to be a surface discoloration due to the formation of a film of oxide or sulfide. Early workers attributed discoloration of dental restorations and the surrounding tooth tissues to the formation of various metallic sulfides. It has been noted that dental alloys tarnished more in some mouths where good oral hygiene appeared to be practiced than in mouths where the opposite was true. Likewise it has been suggested that ingested foodstuffs, medicines containing iron, mercury, sulfur and differences in alkalinity of saliva might all play an important role. On the other

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hand, corrosion has been attributed to factors such as the composition and structure of the alloy and differences in electric potential due to lack of homogeneity of the alloy, or to external contact with other metal. It has been noted that there is a loss in luster of silver amalgam when the specimen is placed in a 1% solution of NaCl. The loss of luster by the amalgam was accelerated when specimens of gold alloys were placed in close proximity or in direct contact with the amalgam. In vivo, tarnish seems to be mostly Ag_2S . Although there are differences in the composition of sulfide compounds, the tarnish is primarily due to sulfur. Polished amalgams do not tarnish as rapidly in Na_2S solutions as do unpolished ones. By polishing the restorations properly, they will not only be improved aesthetically, but will aid in better adaption of the margins and minimized subsequent tarnish.

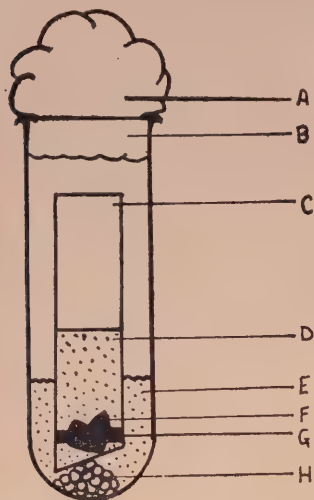
The possibility of electrolytic action between restorations of different composition such as amalgam and gold is of interest. When a tooth filled with silver amalgam is brought into contact with a gold inlay restoration, the potential difference between the two alloys is short circuited, and the result is sharp pain. Even when the teeth are not in contact the difference in electrical potential between the two fillings still exists. The saliva forms the electrolyte and the hard and soft tissues can constitute the external circuit. The question whether or not electrical current of any relevant magnitude are of clinical importance has still not been completely answered.

In the mouth, silver amalgam restorations are subject to fluctuating stresses, and for this reason the "Fatigue Strength" of the material is of great importance. The Fatigue Strength is defined as the strength of amalgam under fluctuating stress conditions. It has been found that for most materials, there is a limiting stress below which a load may be repeatedly applied an indefinite number of times without causing fatigue failure. While a restoration of silver amalgam

might withstand relatively high static stress, or infrequent short duration stresses of the same intensity, the highest fluctuating stress which the amalgam might be expected to withstand is only 22% of the maximum crushing strength.

J. J. Messings has for some time held the view that the inability to occlude completely the lumina of root canals is responsible for a percentage of unsuccessful apicectomies. It is thus essential to effect a perfect apical seal in order to ensure any degree of permanence for the tooth after an apicectomy. Silver amalgam possesses many characteristics which render it ideal for sealing root canals. It is non-irritant, can be condensed into any space, possesses antiseptic properties (oligodynamic action) and expands on setting, thus ensuring good ultimate results. The chief problem has been that of placing the amalgam at the apex. Apices of maxillary incisors and canines, and mandibular canines and premolars are suitable for packing with amalgam; however, this holds true only in those cases where the canals can be enlarged to allow insertion of the carrier to the apical $1/3$ of the root. In other teeth this technique is not practiced.

A desirable property of a dental restorative material is the ability to permanently and completely seal a prepared cavity. The significance of marginal seepage in dental restorations is not as yet completely understood. It is felt that reinfection of dentinal tubules may result from this portal of entry. Marginal seepage, both fluid and bacterial, must be considered as one of the possible initiators of secondary decay. A technique has been described to study bacterial penetration of restoration margins. Freshly extracted sound teeth in which in vitro restorations of silver amalgam were inserted were used. The prepared teeth were waxed into a length of glass tubing and placed into a sterile tube containing nutrient broth (see diag.). The inner tube was inoculated with a test organism and the entire system was incubated and observed for passage of the organism or its water soluble pigment



Apparatus for Bacterial Penetration At Restoration Margin

- A — Cotton Plug
- B — Outer Test Tube
- C — Inner Test Tube
- D — Sterile Nutrient Broth
- E — Sterile Nutrient Broth
- F — Sectioned Tooth
- G — Wax Seal
- H — Glass Beads

(Diagram from Penn.D.J. 62:26 Feb. 1959)

from the inner to the outer media through the restoration margin. Amalgam restorations showed 100% seepage, bacterial and fluid, within eight days. The silver amalgam showed complete lack of ability to withstand marginal seepage. In all cases there was evidence of fluid and of confirmed bacterial penetration. Data obtained in this experiment indicates the probable inability of amalgam to insure a positive marginal seal in relation to fluid and microbial seepage; however, the possible variance of technique in the manipulation of the amalgam must be

taken into consideration in the interpretation of the experimental results.

An interesting experiment was performed using silver amalgam as a metallic implant in the mandible of an animal. Under total anesthesia, 50% silver amalgam was implanted in a dog's mandible. The animal was killed six to eleven months after implantation. Histologic examination of tissue around the implants revealed that these foreign bodies were encircled by small reactionless fibrous capsules. Pathologic symptoms, unquestionably caused by the reaction of the tissues to the presence of a foreign body within the organism were numerous. In most of the cases the inflammatory reaction was insignificant because the implants were encircled by minute capsules of connective tissue, although a severe chronic inflammation of tissue surrounded a few of them. It was concluded after repeating the experiment with copper amalgam, that 50% silver amalgam does not possess bactericidal properties; however, results obtained in animal experiments must be translated to humans with caution.

In the above examples, I have tried to indicate that no matter how much we do know concerning the biophysical properties of silver amalgam, there is still so much more to be learned and discovered. The only way that this will be accomplished is by research and experiment by devoted, professional men.

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124 Edward Street

EDITORIAL

The Board of Governors of the C.D.A.

In Ottawa from September 21-24, 1960, the Board of Governors of the Canadian Dental Association will be meeting in the august and stately rooms of the parliament buildings. Every dentist who is anxious to constructively understand and contribute to his profession, should attend this meeting. Perhaps consideration of this meeting well in advance, will help to create better understanding of board matters and of our national association. There seems little doubt that some members of the Canadian Dental Association do not really know just what the Board of Governors meeting is and that they are welcome, in fact encouraged to attend these sessions.

The term "dental politician" is sometimes used when referring to Board members and not always in the most flattering connotation. In reality there is no such creature as a dental politician. There are, however, men who faithfully participate in the administrative functions of organized dentistry. Most of these men serve voluntarily and ask nothing in return but the hope that their collective deliberations will make their profession stronger and better able to provide public needs. These men whom we elect or appoint are not seeking prestige through their offices, but like all true and good

statesmen are motivated solely by altruistic purposes — their only gain being the satisfaction of service. Such are the men who assemble at the Board of Governors meetings of the Canadian Dental Association to concern themselves diligently and honourably with the functions of our national body.

Following each annual convention and board meeting, the Transactions of the meetings of the Board of Governors are published bilingually and almost verbatim. Each member of the C.D.A. receives a copy of the Transactions. Few, indeed very few of these books are ever read. Sometimes prompted by idle curiosity, a copy will be opened and thumbed through hurriedly. At best these volumes are pretty dry reading if entertainment is the goal of the reader but for those who are concerned with the factual administrative happenings of their national association, the Transactions are most enlightening.

Occasionally the C.D.A. receives criticism for not informing its membership in more detail of association procedures. The Transactions are given to all members and the Journal attempts to the best of the editor's abilities to convey to readers the essence of current dental affairs. There is however no such thing as com-

pulsory dental reading and therefore members will continue to be uninformed.

In the dual role of Editor-practitioner it is easy to sympathize with the man in practice and the heavy and exhaustive demands upon his time. When precious spare time does occur, he resents anything trespassing upon it. And yet when the inside of dentistry is seen through the functions of the C.D.A., one is consumed with an almost desperate desire to convey to his fellow practitioners the importance of knowing and understanding Canadian dentistry on a national scale.

The most palatable and useful solution to this problem of conveying information to individual C.D.A. members lies in his

attendance at the Board of Governors meetings. These are critical times in dentistry and it is imperative that practising dentists see, hear, understand and participate in the administration of their own affairs.

There is no place in dentistry for division of loyalties, small factions or just plain lack of understanding, and moreover, there is no valid reason why any of these undesirable situations should exist. These situations can only thrive upon very little knowledge or no knowledge at all. There is a place and a need for wider participation and understanding of our national association and this can be achieved by attendance at the Board of Governors sessions.

THE CANADIAN SOCIETY OF DENTISTRY FOR CHILDREN

(A Section of The Canadian Dental Association)

**Annual Convention, The Carousel Motel — Wellington Rd. S.,
London, Ontario, Saturday, May 14, 1960.**

PROGRAMME:

8:15 a.m.- 9:00 a.m.	Registration.
9:00 a.m.-10:15 a.m.	Table Clinics on subjects in the general field of dentistry for children (arranged by Dr. Robt. Wainwright, and Dr. A. V. Scrutton, London)
10:15 a.m.-10.45 a.m.	Table Clinic Reviews by Dr. Mueller and Dr. Epstein
10:45 a.m.	Treatment Timing an Orthodontic Dilemma Dr. David Mitchell
11:45 a.m.	Business Meeting.
12:00 a.m.-12:30 p.m.	Pre Luncheon Cocktail Hour.
12:30 p.m.- 2:30 p.m.	Luncheon (cost included in fee)
2:30 p.m.	Radiological and Observational Diagnosis During the Periods of the Primary Mixed and Young Permanent Dentition. Dr. Kenneth Easlick
3:45 p.m.	Radiology Relative to Dentistry for Children Dr. Guy Poyton.

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AND THE LONDON AND DISTRICT DENTAL SOCIETY.**

For further details contact Dr. C. D. Beierl, 4894 Dundas St. W., Toronto

ESSAY PROGRAM

C.D.A. ANNUAL CONVENTION, OTTAWA, SEPT. 25 - 28

Course in Operative Dentistry—Miles R. Markley, D.D.S., F.A.C.D., Denver, Colorado.

SESSION I — *"Saving Hopeless Teeth with Threaded Pins, Retained and Reinforced Amalgam Foundations and Restorations"*

Caries hollowed teeth commonly sacrificed as hopeless and frail brittle pulpless teeth that are a poor restorative risk can be dependably salvaged for service by this technique which is as sound as reinforced architecture.

SESSION II — *"Preserving Teeth and Tooth Structure with Emphasis on Improved Cavity Preparation for Amalgam"*

The natural dentition can be conserved for a lifetime of service by a combination of four methods.

SESSION II — *"Building Amalgam Restorations Which Will Last"*

With cavity preparations and techniques which favour the material, silver amalgam restorations can rival any restorative in service and may surpass all others in dollar value.

Course in Oral Diagnosis—Donald A. Kerr, A.B., D.D.S., M.S., F.A.C.D. Univ. of Michigan.

SESSION I — *"Stomatitis Due to Trauma"*

This lecture will discuss injury due to cheek biting, tooth brush injury, denture trauma and hypersensitivity, chemical injury, allergic response to drugs and nicotine stomatitis.

SESSION III — *"Oral Manifestations of Blood Dyscrasias"*

Because these diseases frequently have initial symptoms in the oral region, the dentist is responsible for their diagnosis; and also because a high percentage of patients with blood dyscrasias have oral problems, the dentist should be familiar with the diseases so that he can outline adequate treatment. This lecture will discuss anemia, polycythemia, agranulocytosis, leukemia, purpura and hemophilia.

SESSION III — *"Selective Types of Stomatitis of Importance to General Practice"*

This lecture will include a discussion of solar cheilitis, lichen planus, geographic tongue (benign migratory glossitis), and herpetic gingivostomatitis.

C.D.A. Panel Presentation—SUBJECT—"Manpower in Canadian Dentistry"

MODERATOR — Dr. W. G. McIntosh, President Canadian Dental Association

PANELISTS	{	Dean R. G. Ellis	"Dentists"
		University of Toronto	
		Dean James McCutcheon	"Dental Assistants"
		McGill University	
		Dean J. W. Neilson	"Technicians"
		University of Manitoba	
		Dr. Wesley J. Dunn	"Hygienists"
		Registrar-Secretary, R.C.D.S.	

Grieve Memorial Lecture — Jacob A. Salzmann, D.D.S., F.A.C.D.

"Orthodontic Principles and Prevention in the Everyday Practice of Dentistry"

The essayist will present procedures in the prevention and interception of malocclusion which do not require orthodontic appliances and other simple measures which can be employed in general practice to avoid long, intricate, and time-consuming treatment in later childhood. The legacy of prevention left by Dr. Grieve will be reviewed and the methods and conclusions based upon the experience of the essayist will be presented.

THE LIBRARY

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MAKE YOUR WAY
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May 15th - 18th

THE ONTARIO DENTAL ASSOCIATION
93rd Annual Convention
Royal York Hotel — Toronto, Ont.

CANADIAN DENTAL ASSOCIATION RETIREMENT SAVINGS PLAN**Statement of Unit Valuations as of February 29, 1960****GOVERNMENT BOND FUND**

Investments at market value	\$ 49,304.96
Accrued income (interest)	216.25
Cash on deposit	32.59
TOTAL	\$ 49,488.62
Less: Administration fee— $\frac{1}{8}$ of 1% of \$49,488.62	61.86
TOTAL MARKET VALUE	\$ 49,426.76
Units outstanding	5,104.121
UNIT VALUE OF FUND	\$ 9.683

CORPORATE BOND FUND

Investments at market value	\$106,688.07
Accrued income (interest)	513.19
Cash on deposit	8.00
	(DR)
TOTAL	\$107,209.26
Less: Administration fee— $\frac{1}{8}$ of 1% of \$107,209.26.....	134.00
TOTAL MARKET VALUE	\$107,075.26
Units outstanding	10,634.256
UNIT VALUE OF FUND	10.068

COMMON STOCK FUND

Investments at market value	\$218,618.85
Cash on deposit	713.42
	(DR)
TOTAL	\$217,905.43
Less: Administration fee— $\frac{1}{8}$ of 1% of \$217,905.43.....	272.38
TOTAL MARKET VALUE	\$217,633.05
Units outstanding	19,204.781
UNIT VALUE OF FUND	11.332

Trustee: The Royal Trust Company

Information about the C.D.A. Retirement Savings Plan is available from Mr. J. T. Staddon,
2249 Yonge St., Toronto 7, Ont. Telephone HU. 1-5731.

THE ASSOCIATION

STATISTICAL DATA RE CANADIAN DENTISTS

Reported by Provincial Registrars as of January 1960

About this time every year, we report the latest figures about dentists practising in Canada. This year, following Table III, the number of dental hygienists is also shown. Cooperation of provincial registrars in providing these statistics is gratefully acknowledged.

Highlights

- The number of dentists has increased by 27 over the previous year. The population of Canada again grew by about 400,000.
- The ratio of dentists to population is 1:3,018 compared with 1:2,963 last year.
- Newfoundland has one dentist for every 10,441 persons and Ontario and British Columbia are at the opposite side of the scale with ratios of 1:2,403 and 1:2,404.
- Provincial ratios show slight improvement in P.E.I., Nova Scotia and British Columbia. Quebec's ratio remains the same as a year ago and the rest are worse.
- Two provinces have no dental hygienists. The remainder have a total of 71 practising hygienists.

TABLE I
DENTISTS PRACTISING IN CANADA

Number of Dentists				Changes during 1959				*Total Related to 1938	**Ratio to Popula- tion
Province	Male	Female	Total	Deaths	Retire- ments	Addi- tions	Relo- cated		
Nfld.	42	1	43	1	1	3	1	+24	1/10,441
P. E. I.	35	0	35	1	2	2	0	+5	1/2,914
N. S.	190	3	193	1	2	9	3	+24	1/3,710
N. B.	113	1	114	3	1	3	2	+4	1/5,175
P. Q.	1,375	9	1,384	14	12	62	15	+510	1/3,612
Ont.	2,429	48	2,477	30	29	110	20	+545	1/2,403
Man.	275	2	277	2	3	10	1	+26	1/3,195
Sask	190	2	192	4	2	6	8	—18	1/4,698
Alta.	406	6	412	8	5	22	9	+176	1/3,017
B. C.	641	12	653	11	5	33	4	+291	1/2,404
Total	5,696	84	5,780	75	62	260	63	+1,587	1/3,018

*These figures show the increase or decrease in number of dentists today, compared with 1938.

**Based on estimated population figures as of June 1, 1959, provided by Dominion Bureau of Statistics.

TABLE II
RELOCATION OF CANADIAN DENTISTS DURING 1959

To																
From	Nfld.	P. E. I.	N. S.	N. B.	P. Q.	Ont.	Man.	Sask.	Alta.	B. C.	U. S. A.	Gr. Britain	Australia	Europe	Others	Total
Nfld.						1										1
P. E. I.																0
N. S.										1	1				1	3
N. B.	1				1											2
P. Q.				2		5			3	3	1				1	15
Ont.			1		2		1		2	3	5	2	3	1		20
Man.										1						1
Sask.					1	1			4	1	1					8
Alta.							1	2		4	1				1	9
B. C.									3						1	4
Total	1	0	1	2	4	7	2	2	12	13	9	2	3	1	4	63

TABLE III
DENTISTS PRACTISING SPECIALTIES
(Only those practising the specialty full-time are enumerated).

	Nfld.	P.E.I.	N. S.	N. B.	P. Q.	Ont.	Man.	Sask.	Alta.	B. C.	Total
Orthodontists	0	0	3	1	23	56	4	2	7	10	106
Dental Oral Surgeons (Exodontists)	0	0	2	0	6	33	5	0	5	7	58
Periodontists	0	0	0	0	3	13	0	0	1	3	20
Paedodontists	0	0	0	0	0	6	2	0	3	7	18
Total	0	0	5	1	32	108	11	2	16	27	202

Practising Dental Hygienists	0	3	5	2	5	42	1	10	0	3	71
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TABLE IV
DENTISTS EMPLOYED IN HEALTH SERVICES

	Nfld.	P.E.I.	N. S.	N. B.	P. Q.	Ont.	Man.	Sask.	Alta.	B. C.	Total
Dental Schools (Teaching Staff)											
Full-Time	0	0	4	0	14	17	6	0	5	0	42
Half-Time	0	0	0	0	0	2	8	0	5	0	15
Hospital Service											
Full-Time	0	0	3	2	15	17	0	2	3	7	47
Half-Time	0	0	0	0	18	5	0	0	0	2	25
School Dental Service											
Full-Time	0	0	1	3	15	30	5	0	3	2	59
Half-Time	0	0	2	2	5	57	2	1	5	1	75
Public Health Service											
Full-Time	2	2	2	2	11	11	3	1	3	30	67
Half-Time	0	0	0	0	0	0	8	0	0	0	8
Total:											
Full-Time	2	2	10	7	55	75	14	3	14	39	221
Half-Time	0	0	2	2	23	64	18	1	10	3	123

TABLE V
DENTISTS EMPLOYED BY FEDERAL DEPARTMENTS
(Full-time)

Department of Veterans Affairs	37
Department of National Defence	170
Department of National Health and Welfare	18
Total	225

1960 Annual Meeting OTTAWA

Board of Governors
Convention

Sept. 21-24
Sept. 25-28

Certificates for reduced rail fares are now available from C.D.A. Headquarters.

Registration Form on page A-44.

MUNICIPALITIES WITH CONTROLLED FLUORIDATION
(January 1960)

PROVINCE	MUNICIPALITY	DATE STARTED	POPULATION AFFECTED	
Newfoundland		none		
Prince Edward Island		none		
Nova Scotia	Halifax	June 11, 1956	90,871	
	Dartmouth	July 3, 1956	20,004	
	Kentville	Feb. 16, 1956	4,840	
	Wolfville	May 1959	3,000	118,715
New Brunswick		none		
Quebec	Pointe Claire	Feb. 3, 1955	15,067	
	Dorval	Feb. 1956	14,000	
	Joliette	1957	18,168	
	Rock Island	July 1958	4,000	
	Pont Viau	1958	12,000	
	(also includes Duvernay)		4,500	
	St. Vincent de Paul		6,000	
	Laval des Rapides)		10,000	83,735
Ontario	Brantford	June 20, 1945	51,557	
	Brockville	Feb. 18, 1956	15,000	
	Deep River	Dec. 9, 1952	3,000	
	Fort Erie	Jan. 18, 1952	8,567	
	Oshawa	Feb. 26, 1953	50,136	
	Sudbury	Aug. 20, 1952	50,000	
	Thorold	Feb. 12, 1952	8,000	
	Tisdale Township	Oct. 3, 1955	8,000	194,260
Manitoba	Brandon	March 8, 1955	24,579	
	Portage la Prairie	Jan. 10, 1957	10,374	
	Greater Winnipeg	Dec. 28, 1956	409,687	
	Boissevain	1957	1,100	445,740
Saskatchewan	Assiniboia	May 1953	2,027	
	Eston	July 1959	1,625	
	Kamsack	Feb. 1959	2,843	
	Kindersley	Sept. 1957	2,572	
	Moose Jaw	Dec. 1952	29,603	
	Saskatoon	July 1955	72,858	
	Swift Current	Oct. 1954	10,612	
	Weyburn	March 1955	7,684	
	Wynyard	August 1956	1,522	131,346
Alberta	Devon	Aug. 6, 1959	1,429	
	Fairview	March 4, 1958	1,260	
	Grande Prairie	July 8, 1959	6,302	
	Red Deer	June 10, 1958	16,000	24,991
British Columbia	Kelowna	Sept. 15, 1956	10,468	
	(incl. Glenmore)			
	Prince George	Sept. 13, 1956	10,563	
	Prince Rupert	March 1, 1957	10,498	
	Smithers	June 21, 1955	1,962	
	Kitimat	Feb. 1958	11,000	
	Mesachie Lake	Feb. 1958	800	45,291
CANADA TOTAL				1,044,078

"We are here not to get all we can out of life ourselves, but to try to make the lives of others happier." — Sir William Osler

First Secretaries' Conference Held

For the first time, secretaries of provincial dental organizations met at Canadian Dental Association Headquarters in Toronto to discuss common problems. Secretaries of all dental licensing bodies in Canada attended, as well as secretaries of some provincial voluntary dental associations. It is hoped that similar conferences will be held annually.

Presentations and discussions concerned the operation of a secretary's office, Canadian Dental Service Plans Inc., C.D.A. Retirement Savings Plan, relationship of provincial and national offices, and the C.D.A. Journal. There was also a complete review of auxiliary personnel and proposed legislation in some provinces.

Dr. W. G. McIntosh, President of the C.D.A., opened the conference. Dr. Don W. Gullett, C.D.A. Secretary, was elected chairman. The conference was held under the auspices of the Canadian Dental Association with support from each province.

C.D.A. Executive Meets

Under the chairmanship of Dr. William G. McIntosh, President, the Executive met at Headquarters in Toronto for three full days in February. A great deal of Association business was conducted, from financial matters, through convention planning, a continuing study of the role of auxiliary personnel to dental research and other important matters.

The Executive also expressed its best wishes to Dr. S. J. Phillips, Chairman of Finance, who was unable to attend. Dr. Phillips is recuperating satisfactorily from a recent coronary attack.

Bureau of Public Information Established at Headquarters

Concurrent with establishment of a Bureau of Economic Research, the C.D.A. Executive also set up a new Bureau of Public Information as an addition to the growing administration of the Association's affairs. Director of Public Information is Mr. Kenneth L. Croft, who also continues in his capacity as Deputy Secretary. Mr. Croft, who joined the C.D.A. staff in 1957, is a journalism graduate of the University of Western Ontario.

The Bureau of Public Information will attempt to co-ordinate and direct the spread of information about the Association and dentistry generally to the profession and the public. The Director will continue to work with the C.D.A. Committee on Public Relations in its many programs.

C.D.A. Establishes Bureau of Economic Research

Establishment of a Bureau of Economic Research at C.D.A. Headquarters was approved by the Executive at its recent meeting. Director of the new bureau is Miss Isabel Boyd of Toronto.

Miss Boyd was previously economist in charge of the Hospital Planning Section, Research and Statistics Division, Ontario Hospital Services Commission. Miss Boyd held a key position in the establishment of the Ontario government's hospital services plan which provides hospitalization insurance coverage for most Ontario residents. The new Director of Economic Research is a graduate of the University of Toronto in Political Science and Economics.

One of the chief concerns of the new Bureau will be in the realm of health insurance and particularly dental service plans. It is expected that studies will be undertaken to provide much-needed basic information concerning many aspects of dentistry.

Redefinition of Profit

Dr. Austin Smith, formerly editor of the Journal of the American Medical Association, executive editor of the World Medical Association and President of the Pharmaceutical Manufacturers Association of the United States, told a Montreal audience recently that there has been a "ridiculous redefinition of the word 'profit'." Referring to the full-scale assault on the pharmaceutical industry's entire competitive system of production and distribution he pointed out that "Taking only the ratio of cost of raw material to the retail cost of a finished preparation, packaged and ready to be sold from the druggist's shelf, critics calculated some understandably spectacular but not accurately indicative percentage figures and then gave them the label of 'profits' or 'markup' . . . On such a basis of calculation the markup on a refrigerator would be several thousand per cent!"

The "ridiculous redefinition" referred to by Dr. Smith is frequently used to discredit business and to maintain the fiction that "profit" is a dirty word. In a recent television address Hazen Argue, Federal House Leader of the CCF, complained about the high cost of a set of dentures and referred to the fact that "the raw material that went into the manufacture of a set of false teeth cost just 15c". It could be argued just as successfully that the raw material in a hundred dollar Swiss watch is worth only a few cents—the cost of the steel. Surely no sensible person believes that the cost of an article should be related by some mathematical formula to the cost of the raw material involved. Our value as human

beings would not be rated very high on the basis of cost of the chemicals which go to make up our physical being.

Reduced Rail Fares Available

Special convention rates for railway travel to Ottawa have been authorized through the Canadian Passenger Association. Identification certificates are available on request to C.D.A. headquarters.

Dates authorized for the start of the going journey are as follows:

From stations in Newfoundland—

September 14 to 22 incl.

From all stations east of and including Armstrong and Fort William, Ont. (except Nfld.)—

September 17 to 24 incl.

From all stations west of Armstrong and Fort William, Ont.—

September 14 to 22 incl.

Rooney Honoured; Portrait Presented

Dr. R. A. "Art" Rooney, secretary-registrar of the Alberta Dental Association, was honoured recently at a testimonial reception in Edmonton. Dr. Rooney was president of the Canadian Dental Association from late 1943 until 1945.

More than 150 dentists gathered for dinner to honour Dr. Rooney for his many years of service as practising dentist, educator and leader in organized dentistry. Congratulatory letters and telegrams from near and far were read. Highlight of the program was the unveiling of a portrait of Dr. Rooney, and its presentation to Dr. Walter Johns, president of the University of Alberta. The portrait will be hung in the dental faculty.

At 69, Dr. Rooney maintains a private practice in Edmonton, as well as serving as secretary-registrar of the provincial association.

President and Secretary Visit Western Canada

Annual tour of C.D.A. President and Secretary to dental organizations in western Canada began February 20. On the itinerary are visits to thirteen cities from Sudbury, Ontario, to Victoria, B.C., as well as talks with dental students at Edmonton and Winnipeg. Because of the sudden death of his father, President McIntosh cancelled his first two western appearances. He joined Dr. Gullett at Edmonton to complete the remainder of the trip.

Swedish Dentists Plan Centennial

Members of the Canadian Dental Association have been invited to attend the Swedish Dental Society's observance of its centennial

August 17-20 in Stockholm. Prominent researchers and clinicians from all over the world are expected to participate in a four-day scientific program featuring lectures, symposia, panel discussions, films and demonstrations. There will be an exhibition of objects and publications collected during the past 100 years, demonstrating scientific and technical progress in dentistry. Information is available from the Secretary, Swedish Dental Society, Nybrogatan 53, Stockholm.

Kellogg Foundation Aids Canadian Dentistry

Extensive financial assistance has been provided to dentistry in Canada through the generosity of the W. K. Kellogg Foundation. A supplement to the Foundation's Annual Report, issued recently, shows that since 1937 a total of almost \$500,000 has been granted toward dental programs in Canada. Most of the money has been directed through the dental faculties and the Canadian Dental Association. The complete list follows.

PROGRAMS

	Payments Commit- through ments or Aug. 31, grants 1959	
Canadian Dental Association		
To assist in developing a program of accreditation and consultant services for the Canadian dental schools.	\$13,698	\$ 12,113
Aid toward a series of in-service education conferences for faculties of Canadian dental schools....	3,273	3,273
Dalhousie University		
To assist in strengthening the teaching program of the Faculty of Dentistry and to encourage the development of regional planning and support for dental education by the Maritime Provinces.	180,654	161,844
To establish loan and scholarship funds for undergraduate dental students...	10,000	10,000
Manitoba Department of Health & Public Welfare		
Assistance toward development of a program in public health dentistry....	7,173	7,173
McGill University		
To establish loan and scholarship funds for undergraduate dental students..	10,000	10,000
Toward the salaries of two additional full-time teachers to strengthen teaching and research in the Faculty of Dentistry.....	63,019	18,900
University of Alberta.....	15,000	15,000

University of Manitoba		
To establish loan and scholarship funds for undergraduate dental students ...	15,000	15,000
Regional Conference		
For a conference to consider dental education needs of western Canadian provinces	1,709	1,709
University of Montreal		
To assist in the development of a comprehensive program of postgraduate dental education.....	63,608	63,608
To establish loan and scholarship funds for undergraduate dental students...	15,000	15,000
University of Toronto		
To establish loan and scholarship funds for undergraduate dental students...	15,000	15,000

Aid toward establishment of a training program for dental hygienists.....	32,870	32,870
To help develop a comprehensive program of graduate and postgraduate dental education.....	20,886	20,886
FELLOWSHIPS		
(by cooperating agency)*		
Dalhousie University (9)	\$11,038	\$11,038
Manitoba Department of Health & Public Welfare (1)	2,103	2,103
McGill University (4).....	18,435	18,435
University of Alberta (4)....	16,070	16,070
University of Montreal (5)...	14,562	14,562
University of Toronto (6)....	18,198	18,198
	\$547,296	\$482,782

*Figures in parentheses indicate number of fellowships.

THE CORPS

#54 Dental Unit C. A. (M) Regimental Dinner

No. 54 Dental Unit CA (M) held a regimental dinner at Unit H.Q., Wallis House, Ottawa, on 23rd January 1960.

The occasion was to mark the retirement of Lt. Col. C. E. Woods, as commanding officer of the Unit.

Head table guests were: Brig. & Mrs. K. M. Baird, Brig. & Mrs. E. M. Wansbrough, Col. C. B. Climo, Col. & Mrs. H. R. McLaren and Lt. Col. & Mrs. C. E. Woods.

Lt. Col. H. J. Chartrand, commanding officer of No. 54 Dental Unit presented Lt. Col. Woods with an inscribed stein as a memento of his term of office as Commanding Officer. Mrs. Woods received a brooch in the form of a replica of the R.C.D.C. crest.

Presentation of a framed picture was made to Brig. Baird.

Lt. Col. H. J. Chartrand presented an engraved stein to Major R. Brousseau who was Paymaster to No. 54 Dental Unit for the past seven years.

Board of Consultants to the R.C.D.C. Appointed

National Defence Headquarters has announced that a civilian board of consultants to the Royal Canadian Dental Corps will be appointed in the near future.

The function of this board will be to advise the Director General of Dental Services in the various specialist fields which affect dental services in the Canadian Forces and serve as an advisory body on specific dental problems as well as on the broader aspects of treatment policy and the training of service dental officers and auxiliary tradesmen.

At present, the board will consist of eight members representing the specialties of orthodontics, restorative dentistry, periodontics, oral surgery, prosthodontics, oral diagnosis and roentgenology and research and ethics.

The duration of appointments to the board is three years. Names of consultants will be published in the next issue of *The Journal*.

Major Bagnall Promoted

Army Headquarters has announced the promotion of Major S. G. Bagnall to the rank of Lt.-Col. effective February 15, 1960.

Lt.-Col. Bagnall was born in Sydney, N.S. in 1922 and received his dental education at Dalhousie University graduating in 1945. He enrolled in the C.D.C. in July 1945 and has served continuously since that time in Halifax, Rivers, Man., Winnipeg, Korea and at sea aboard H.M.C.S. "Warrior" and H.M.C.S. "Magnificent". In December 1957 he was posted to his present appointment as instructor in prosthetic dentistry at The R.C.D.C. School, Camp Borden. Lt.-Col. Bagnall is married with three children.



R.C.D.C. FLASHBACK

The above photo of CDC officers was taken in Hampshire, U.K. in May 1942. It is believed the officers shown were on strength of No. 4 Company CDC.

Lt.-Col. Oldfield Retires

The retirement of Lt.-Col. S. K. Oldfield from the R.C.D.C. on February 15, 1960, has been announced by Army Headquarters.

Lt.-Col. Oldfield, a native of Halifax, received his early education in Halifax and Pictou, N.S. and his dental training at Dalhousie University graduating in 1929. Prior to the war he was employed by the Nova Scotia Provincial Government and served on the staff of Victoria General Hospital in Halifax. He was first associated with the army in 1930 serving with the militia until he enrolled in the C.D.C. in July 1940. During the war he was overseas in Italy and the United Kingdom from 1941 to 1944. Since that time he has held appointments in Eastern, Western and Central Commands as well as The R.C.D.C. School and the Directorate of Dental Services. His most recent appointment was as Senior Operator at R.C.A.F. Station Trenton, Ontario.

All members of the Corps wish Lt.-Col. and Mrs. Oldfield every success in civilian life in Toronto.

Dental Meetings

Colonel G. B. Shillington, Deputy Director General of Dental Services presented an afternoon and evening clinic on Partial Dentures to the London and District Dental Society on March 12.

Major J. C. Brick, Directorate of Dental Services presented a lecture and film on the care of Mass Casualties to a meeting at the Ottawa Dental Society on January 18.

Lt.-Col. G. R. Covey, Commanding Officer, No. 35 Field Dental Unit, France, addressed the February meeting of the Allied Forces Dental Society.

Courses

The following R.C.D.C. officers have recently attended postgraduate courses:

Major C. G. B. Grant, H.M.C.S. "Stadacona", Halifax, Periodontics at the University of Toronto.

Major A. R. Ramsay, Montreal, Quebec, Periodontics at the University of Toronto.

Major J. M. Smith, R.C.A.F. Station Goose Bay, Lab. Pedodontics at the University of Michigan, Ann Arbor, Michigan.

Major W. R. Thompson, Camp Gagetown, N.B. Oral Surgery at the U. S. Naval Dental School, Bethesda, Maryland.

Captain J. J. N. Wright, Camp Borden, Ontario, Endodontia at University of Toronto.

Lt.-Col. Butcher aboard H.M.C.S. "Cape Scott"

Lt.-Col. N. A. Butcher of Melancthon, Ont. is serving aboard H.M.C.S. "Cape Scott" the R.C.N.'s new supply ship on the east coast.

Releases

The following officers have taken their releases from the Corps to enter private practice:

Major J. P. R. Guay, of Lauzon, Que.

Capt J. R. Fraser, of Amherst, N.S.

THE PROVINCES

ALBERTA

President's Visit

The February meeting of the Lethbridge and District Dental Society was held in the El Rancho dining room on Thursday, February 25th. This was the meeting for the annual visit of the president and secretary of the Canadian Dental Association.

Following the dinner was entertainment by the "Coralaires" a group of singers under the leadership of Dr. W. Matkin. Their singing was much enjoyed by all present. Dr. McIntosh reviewed the aims and objectives of the Canadian Dental Association and told there were twenty-two committees and one hundred men working on our behalf. Other problems of the C.D.A. were discussed and some of the more recent trends in dentistry were covered.

Dr. Gullett reviewed the results obtained from the recent dental survey and how these results could be of use.

Visiting dentists from Medicine Hat, Blairmore, Pincher Creek, and Taber were present.

Dental Seminar

A Dental Seminar was held in Lethbridge on February 8th and 9th. Dr. Haryett and Dr. Castaldi of the University of Alberta discussed various aspects of Pedodontics in dental practice.

Dentists from Medicine Hat and other Southern Alberta points were present. The fact that this course was well attended for the second year in a row, shows how much the dentists appreciate this type of gathering.

We certainly hope these men can come again and that this will be a yearly event to look forward to.

MANITOBA

University of Manitoba Receives Grant

The Department of National Health and Welfare, Ottawa has announced a grant of \$48,100 has been given to the Faculty of Dentistry, University of Manitoba.



Dr. C. B. Jameson, President, British Columbia Dental Association.

The grant has been awarded to the children's department of the faculty for the new dental school at the university. It will assist in the acquisition of equipment for clinical services to children.

NOVA SCOTIA

Ideas on Recruitment—J. D. MacLean

Until quite recently, the matter of recruitment for our profession has neither needed nor been given much attention. Particularly in the immediate post-war period, the dental schools have had more than sufficient qualified applicants for the available accommodation.

Changes have occurred to alter the situation somewhat. Fortunately, there has been a marked increase in available accommodation for dental education in Canada. On the other hand, the number of university students potentially available for dentistry

will decrease during the next few years. In addition, other professional and industrial groups have had rather intensive campaigns in recruiting for several years. Thus, if dentistry is to maintain the quality and number of prospective students, I believe we shall have to take an active interest in recruitment. Recruitment to the profession is primarily a responsibility of the profession.

Speaking with students on more than one occasion, two points have been raised by them. It is their opinion (which I share) that a number of excellent prospects for dentistry are discouraged by the high cost of dental education in relation to most other courses, and by the shortage of financial assistance for students in dentistry. Recently one of our brighter lads said to me "If the profession is so concerned about the shortage of dentists, why do they not provide financial assistance for students?"

If each of the provincial societies in this region were to set aside as little as \$1.00 per month for each active member on the registry, an excellent bursary system could be established. The amount of money thus obtained would provide six substantial bursaries annually, as follows:

(1) Two bursaries for first year students at \$1,000 each.

(2) Two bursaries for second year students at \$1,000 each.

(3) Two bursaries for third year students at \$500 each.

Under such a plan, two good students of little or no means could look forward each year to a career in dentistry.

Such a plan for less than 25 cents a week for each dentist in this area would not only assist worthy students and stimulate recruitment, but would also provide strong evidence to governments and the public of our profession's keen interest in the future of dental health. Through such leadership we might persuade government agencies and others to provide similar student assistance, and certainly it would help to discount any criticism that the profession was not interested in expanding its membership.

One other advantage to the plan is that it would provide assistance to students paralleling the plans of certain provincial health departments and the armed services, but would leave the student free to select his place and type of practice.

Halifax Dental Society Meets

The Halifax Dental Society held its January meeting and was addressed by Dr. P. S. Christie. He was thanked by Dr. Sprachlin who asked the Society to issue an invitation to Dr. Christie when he has time, to develop a presentation of the more technical aspects of the subject of removable appliances.

D.S.P.I.

The Dental Service Plan has now been in force in Nova Scotia since July 1, 1959. This makes it seven months old. To date fifty-two dentists have become participating members. This is less than a third of the potential membership. If the plan is to carry through the aims and ideals for which it was formed, then it needs the co-operation of the entire membership of the Nova Scotia Dental Association active membership.

It should be remembered that the Plan is not a collection agency per se, but rather is a means of offering otherwise unobtainable services to the general public because of the cost factor in families of low-income groups. It is a non-profit method of providing dental care to the public, and one which follows the true philosophy of the profession, whose aim is good dental health.

The cost of participation is \$35.00, and this is lifetime cost. Your cheque should be made out to the Nova Scotia Dental Services Board, and mailed to P.O. Box 261, Armdale, N.S.

Regulations Set Up

The Nova Scotia Hospital Dental Services Committee has drawn up a set of model regulations for consideration by Hospital Boards. This will be presented to the C.D.A. Board of Governors at the next annual meeting.

ONTARIO

London and District Dental Society

The 1959-60 Season of the London and District Dental Society has been marked by the excellence of clinicians, for the first half of the program year.

At the October meeting Past-President Dr. Duart Whiteman turned the gavel of office over to incoming President Dr. David Way. Other officers installed at this meeting were: President-Elect, Dr. A. V. Scrutton, Secretary, Dr. Peter Currie, Treasurer, Dr. Robert Wainright.

As guest clinician, Dr. P. G. Anderson, Professor of Operative Dentistry, Faculty of Dentistry, University of Toronto, (also a Past-President of the Canadian Dental Association) spoke on "Recent Trends In Oper-

ative Dentistry", with special emphasis on the thiokol impression materials. Although speaking to many former students no one could deny that "P.G." still retained the enthusiasm and finesse of delivery which has endeared him to undergraduates and graduates alike over the years.

In November Colonel A. J. Harris, Officer Commanding No. 55 Dental Unit Militia, with the cooperation of the Militia arranged an evening at Wolseley Barracks in London. Over sixty members of the London and District Dental Society attended this liaison meeting with the Corps and a showing of an excellent film on artificial resuscitation climaxed a most enjoyable session.

Dr. Ralph Sommer, of Ann Arbor, Michigan, was the clinician for the December meeting of the Society. Both afternoon and evening sessions were held. How Dr. Sommer arranged to condense with clarity his copious endodontic material into the four hours allowed will probably confound the most ardent time-motion adherents. Condense it he did, however, and the result was a most fascinating and practical short course on the highlights of endodontic treatment for general practitioners.

Since January is the month to effect post-Christmas resolutions, Dr. Wesley J. Dunn's topic, "... to spite your face", was most timely. Relinquishing temporarily his onerous duties as Secretary-Registrar of the R.C.D.S. of Ontario, Dr. Dunn spoke of the many professional and community responsibilities of dental practitioners. He reminded his attentive audience of the individual dentist's responsibilities in public relations and the mirror he becomes for the entire profession in his patients' eyes. As always Dr. Dunn was candid and eloquent with disciplined brevity so often lacking in difficult topics. A panel discussion was held with four local men participating; Dr. D. A. Campbell, Moderator, Dr. A. J. Harris, Dr. James Guest and Dr. James Millar. Earlier in the evening Dr. A. M. Coote, Dr. R. J. Sutherland and Dr. Elgin Thompson were elected to the three vacancies in the Dental Public Health and Public Relations Committee.

P.E.C.

Toronto Academy of Dentistry Elects New President and Council

Dr. Vernon A. Herron has been elected president of the Academy of Dentistry, Toronto, for the term 1960-61. Dr. Herron graduated from Riverdale Collegiate in 1942 and served in the Royal Canadian Air Force until 1945. After the war he studied Dentistry at the University of Toronto and has been practising in Toronto since graduation. Dr.



**Dr. Vernon A. Herron, President, Academy
Dentistry Toronto.**

Herron and his family attend Presteign United Church in Scarborough, where he is an Elder. Dr. Herron is also a member of Scarborough Golf and Country Club.

Other members elected to the Council were Dr. Arthur E. Histrop, President-elect; Dr. John H. Mullett, Secretary; Dr. Robert M. Grainger, Treasurer; Dr. J. E. Carson McGowan and Dr. Murray Cornish, Councillors from North Toronto; Dr. Morley G. Hardy, Councillor from East Toronto; Dr. John R. Glenny, Councillor from West Toronto; Drs. Anthony C. Manis and Samuel Mednick, Councillors from Central Toronto.

R.M.G.

Academy of Dentistry, Toronto Second Stated Meeting, February 18th, 1960

The program for the Second Stated Meeting on Thursday, February 18th, 1960, in Osler Hall included three clinicians from the Academy of Medicine. Dr. O. Harold Warwick, senior physician of the Princess Margaret Hospital in Toronto, spoke on "An assessment of certain aspects of the cancer problem."

Dr. George A. Gow, F.R.C.P. (C), was the second speaker. Dr. Gow is attending physician at Wellesley Hospital and consultant in medicine at Sunnybrook Hospital. "Some recent advances in heart diseases" was the title of his paper.

Dr. J. N. Swanson, F.R.C.P. (E) completed the program with the subject "Some current ideas on the cause, course and treatment of arthritis". Dr. Swanson is on staff at the arthritic clinics at Toronto General and Sunnybrook Hospitals and is lecturer at the School of Physio and Occupational Therapy and the School of Nursing.

Members of the Academy of Medicine were invited as guests to attend the meeting. It is hoped that joint medical dental programs such as this will further the understanding and co-operation between the medical and dental professions.

R.M.G.

Dr. L. Opaski Elected President of Thunder Bay D.A.

Dr. L. Opaski of Port Arthur was elected president of the Thunder Bay Dental Association at the annual dinner meeting held in the Royal Edward Hotel, Fort William.

Other officers are: vice-president, Dr. G. S. Bowles, Fort William; secretary-treasurer, Dr. S. P. Smith, Port Arthur; past president, Dr. J. A. Stitt, Fort William.

Dr. V. Keenan of Sudbury, president of the Royal College of Dental Surgeons, was guest speaker. Introduced by Dr. A. Kaukinen, he spoke on Dental Services Plan Incorporated which sponsors a post payment plan for dental services, and a dental care program for mother's welfare cases, both inaugurated in January, 1959.

Representing other professions and bringing greetings were: A. A. Kajander, Q.C., Thunder Bay Law Society; Dr. G. Cramm, Thunder Bay Medical Association; H. Kish, Thunder Bay Architectural Association; Curtiss Cotton, Engineering Institute of Canada, and Warren Moore, Canadian Institute of Forestry.

Retiring president Dr. J. Stitt presided over a short business meeting during which the new executive was elected. Dr. G. Bowles reported on the past year's activities and Dr. G. McKeown reported for the Dental Public Health committee.

PRINCE EDWARD ISLAND

Fluoridation Rejected in Plebiscite at Charlottetown by 27 Votes

A plebiscite on fluoridation was held in Charlottetown, Prince Edward Island, on Wednesday, February 10th, in connection with the civic election.

Fluoridation was publicly endorsed by the 41 medical doctors and the 16 dentists living in Charlottetown, the Ministerial Association and Roman Catholic Clergy. The press was most generous in allotting space. An energetic campaign was carried out under good leadership. Only a few anti-fluoridation letters appeared in the press and each of these was satisfactorily answered.

The results clearly demonstrate that it is very difficult to have fluoridation adopted in any community where uninformed people are called upon to make the decision.

H. Mc.

QUEBEC

La Société Dentaire de Montréal

The monthly reunion of the Société Dentaire de Montréal was held on January 19th at the University of Montreal under the chairmanship of Dr. M. Thibault.

Following a brief business discussion, the guest speaker Dr. Onil Hebert was introduced by Dr. C. Bouillon. Dr. Hebert's subject for this meeting was "Preventive Orthodontics."

In the speaker's opinion, malocclusions in general should be treated during the mixed dentition and that most of these malocclusions could be treated effectively by the use of a modified Hawley bite plate. Closed bites, protrusive anterior teeth, stabilization of six-year molars and the prevention of the collapse of the alveolar process can all be treated with this plate. It is also useful in the correction of thumb sucking.

With slides many malocclusions were shown that were caused by the premature loss of the primary teeth. Dr. Hebert concluded with a film showing the effects and malocclusions caused by thumb sucking.

D.A.R.

Advice

To the young I should offer two maxims: don't accept superficial solutions of a difficult problem, and it is better to do a little good than much harm. I should not offer anything more specific; every young person should decide on his or her own credo.—Bertrand Russell

GENERAL NEWS

Educator Stresses Research

Dr. Reidar F. Sognnaes, professor of oral pathology and acting dean of Harvard School of Dental Medicine, has set forth a three-pronged approach to achieving the goal of dental health which emphasizes importance of research. Dr. Sognnaes' thesis, outlined in an article called "Dentistry At Its Centennial Crossroads" in the December 18 issue of Science magazine, includes the following steps:

Step number one is to implement the research training for dental scientists. This requires substantial long-term support. To get this under way, the federal government must step in with support specifically earmarked for the training of teacher-researchers, until dental schools come to attract a greater share in endowments by private foundations. Among the 400 philanthropic foundations listed in American Foundations and Their Fields, six are already specifically naming dentistry as being among their major aims. The Kellogg Foundation, one of these, now supports the Commission for the Survey of Dentistry.

Step number two is to enable properly trained dental scientists to pursue basic research on a long-term basis rather than be confined to narrow, short-term projects.

Step number three is for this new breed of dental scholars and investigators to extend and deepen their collaboration with scientists and experts in other fields, in situations ranging from laboratory research to "chair-side" and bed-side patient care.

Dr. Hans Selye to Receive Miller Memorial Award

Dr. Hans Selye, professor and director, Institute of Experimental Medicine and Surgery at the University of Montreal, will be the first recipient of the Dr. Samuel Charles Miller Memorial Award, it has been announced by the American Academy of Dental Medicine.

The noted author of the general adaptation syndrome concept will receive the award in recognition of his significant contributions to the art and science of dental medicine. It will be presented to him at the Academy's 14th annual meeting to be held May 27-30 at the Warwick Hotel, Philadelphia, according to Drs. Jacoby T. Rothner and Bernard B. Saturen, co-chairmen.

At the meeting, Dr. Selye will present an original paper on the subject: "The Induction of Calcification by Mechanical Stress Applied Locally Through Implants of Glass or Plastic Objects."

Georgetown Plan May Aid Recruitment

Georgetown University Medical Center officials started to review 400 applications for 20 research scholarships in the Schools of Medicine and Dentistry this summer. They came from junior class students of high scholastic standing in 50 public and private schools in the metropolitan Washington area.

Those chosen will receive an award of \$100 with Georgetown also providing facilities and the necessary supplies and equipment for research designed to prepare them for professional careers and to point a way to meet the threatened shortage of physicians and dentists.

60 Per Cent Caries Decline

An average decrease in caries of 60 percent has occurred in Evanston, Illinois, children whose entire lives have been spent there since fluoridation began 13 years ago. This statistic was announced recently on the anniversary of the addition of fluoride to the water supply. The director of the Evanston Dental Caries Study presented the city's Mayor with a mock check for \$154,202 representing the estimated amount Evanston parents have saved in dental bills since fluoridation was started in 1947.

Fluoridation Defeated in Two Plebiscites

Charlottetown, P.E.I., and Hinton, Alberta, have turned down fluoridation in recent plebiscites.

Despite solid support from dentists and physicians, from service clubs and newspapers, fluoridation was defeated in Charlottetown 1,540 to 1,513, a margin of only 27 votes. In Hinton, 60% of the votes favoured fluoridation but a two-thirds majority is required to permit fluoridation.

Latest reports from the United States show 1,892 communities with 1,055 water supplies benefit 36,849,021 people with fluoridation. Over 7,000,000 Americans drink naturally fluoridated water.

IN MEMORIAM

Everett Roy Zimmerman—Dr. Everett Roy Zimmerman of Toronto, died on August 15, 1959.

Born in 1880 at Barrie, Ontario, Dr. Zimmerman received his early education at Peterborough. He graduated from the R.C.D.S. of Ontario in 1905. He practised in Toronto from 1905 to 1910 and from 1910 to 1914 in Ottawa, he was at Camp Borden for 20 years, and retired in 1940. In 1915 Dr. Zimmerman was in command of a large dental unit in the First World War, taking more than 300 dentists and men overseas to take care of Canadian Soldiers.

Dr. Zimmerman was a member of the executive committee of the Ontario Dental Association in 1922, he was also a member of St. Andrews Masonic Lodge.

Surviving are his wife and son, two sisters, and two brothers.

Murray Nicholson—Dr. Murray Nicholson of Amherst, Nova Scotia, died on February 8th. He was 63.

Dr. Nicholson was born in Sydney Mines and received his early education there. He later attended Acadia University and then graduated from Dalhousie Dental School.

A veteran of both the First and Second World Wars, Dr. Nicholson also practised dentistry in Springhill for a number of years. He moved to Amherst 18 years ago where he practised his profession until 1955 when he retired. He was a member of the IVY Lodge IOOF, a past master of Amherst Rotary Club and of the Marshlands Club.

He is survived by his widow, Sadie; one sister, Mrs. R. D. MacLellan, and one brother, Turnbull.

George Ernest Holmes—Dr. George Ernest Holmes of Prince Albert, Saskatchewan, died on February 10, 1960. He was 83.

Dr. Holmes was born in Exeter, Ontario in

1877. He graduated from the R.C.D.S. of Ontario in 1899 and set up practice in Saskatoon until 1906, then practised in Dodsland up to 1938 and from 1938 to 1951 in Prince Albert.

He served with the C.A.D.C. in World War I. Dr. Holmes held an Honorary Life Membership in the Saskatchewan Dental Association.

Surviving are his daughter, Mrs. E. F. Foster-Copp; one sister, Clara, and one brother, J. H. Holmes.

Fred William Murray—Dr. Fred William Murray of Toronto, died on February 17th. He was 89.

Dr. Murray was born in England in 1871 and received his early education there. He graduated from the R.C.D.S. of Ontario in 1899 and set up practice in Toronto and was still practising until three weeks before his death.

During World War I he served as a corporal at Red Triangle Club for 3½ years. He was also active in Boy Scout movements.

Dr. Murray is survived by his wife, Edna, and two sons, James and W. F. Murray.

William Andrew Fleming—Dr. William Andrew Fleming of Alliston, Ontario, died on October 22, 1959.

Dr. Fleming was born in 1875 at Stanley Mills. He received his early education in Brampton and graduated from the R.C.D.S. of Ontario in 1902, setting up his practice in Alliston where he remained up to his death.

Dr. Fleming held a B.A. degree (Queen's 1908) and was made an Honorary Member of the R.C.D.S. in 1952. He was a municipal councillor from 1921 to 1924 and a high school trustee from 1914 to 1918. Dr. Fleming was also a member of the Masonic lodge and presiding judge in the 17th degree.

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1960	Ottawa, Ontario	Sept. 25th-28th
1961	Saskatoon, Saskatchewan	June 4th-7th
1962	Vancouver, British Columbia	June 3rd-6th

1967	Toronto, Ontario	May
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(Centennial Celebration
of Dentistry in Canada)

FUTURE EVENTS

Date	Function	Location	Officer	Address
May 12, 13, 14, 1960	B.C. Dental Association Convention	Empress Hotel Victoria, B.C.	Dr. W. Ross, Upton	217 Medical-Dental Bldg., Vancouver 1
May 15-18, 1960	Ontario Dental Association Convention	Royal York Hotel, Toronto, Ont.	Mrs. A. Durham	230 St. George St., Toronto 5, Ont.
June 5, 6, 7, 8, 1960	First Atlantic Provinces Dental Convention	Admiral Beatty Hotel, Saint John, N.B.	Dr. A. D. Bona	82 King St., Saint John, N.B.
June 4-7, 1961	Western Canada Dental Society Convention	Bessborough Hotel, Sask.	Dr. N. F. Gropper	704 Canada Bldg., Saskatoon, Sask.
May 22, 23, 24, 1960	College of Dental Surgeons of Sask. Biennial Convention	Moose Jaw, Sask.	Dr. F. Muirhead	441 Main St. N., Moose Jaw, Sask
May 14, 1960	Canadian Society of Dentistry For Children	London, Ontario	Dr. C. D. Beierl	4894 Dundas St. W., Toronto, Ont.
May, 1961	Canadian Society of Dentistry For Children	Toronto, Ontario	Dr. C. D. Beierl	4894 Dundas St. W., Toronto, Ont.

ALBERT EINSTEIN COLLEGE OF MEDICINE, DEPARTMENT OF DENTISTRY

A two-day seminar will be presented on "Premedication, Co-Medication, and Supportive Therapy in Dental Practice" — June 9, 10, 1960. Class limited. Fee \$30.

For further information write: Albert Einstein College of Medicine, Dept. of Dentistry, Director of Postgraduate Studies, Eastchester Rd., and Morris Park Avenue, Bronx 61, New York, U.S.A.

TUFTS UNIVERSITY SCHOOL OF DENTAL MEDICINE

Tufts 11th Annual Berkenshire Conference in Oral Pathology and Periodontology—June 19-23, 1960, Lenox, Mass.

Dr. Charles E. Stuart of California, a noted authority in the field of occlusion, will be the principal lecturer.

For further information contact: Tuft's University, School of Dental Medicine, Division of Graduate and Postgraduate Studies, 136 Harrison Avenue, Boston 11, Massachusetts.

OTHER INFORMATION CONCERNING DENTAL MEETINGS OUTSIDE CANADA IS AVAILABLE AT C.D.A. HEADQUARTERS.

Diagnostic des algies de l'articulation mandibulaire

par JEAN FONTAINE, D.D.S. et ISRAEL FEINCHEIDER, D.D.S., Montréal

Rapport de cinq cas

Le diagnostic tient à la fois de la science et de l'art; il repose sur la bonne intelligence de toutes les phases de la biologie, de la physiologie; il compare les phénomènes normaux avec ceux de la pathologie, en utilisant toutes les techniques et tout l'armement de l'exercice dentaire moderne.

Le diagnostic exige pour chacun des malades une procédure particulière et une interprétation individuelle des signes pour établir un plan de traitement, dont l'objectif est le maintien de l'intégrité des organes présents ou la restauration de leurs fonctions. L'examen et l'analyse des symptômes forment la base de la thérapie moderne¹; ils constituent la clé de voute du succès de tout procédé thérapeutique, mécanique, médicamenteux ou chirurgical.

Le diagnostic joue un rôle important en chirurgie dentaire, comme en médecine et dans tous ses domaines: bien compris

et bien appliqué, il prévient une foule d'erreurs, que ni la dextérité manuelle, ni des techniques raffinées ne peuvent corriger.

Le dentiste, en observant les principes propédeutiques, rend à l'humanité souffrante des services inappréciables; il a fréquemment l'occasion d'intervenir avec succès là où se rencontrent des troubles ou des désordres, dont l'origine n'est pas infectieuse.

Il ne faut pas croire que les syndrômes douloureux proviennent toujours de réactions de l'organisme à une bactériémie: souvent, la douleur est causée par une inflammation traumatique où les microbes n'interviennent en rien.

On accorde dans les manifestations de malaises dont souffrent les patients dentaires une place trop importante à l'infection; ceux-ci sont parfois référés au psychiatre, parce qu'on ne peut déceler

chez eux des foyers infectieux, partant parce qu'on a pas examiné à fond l'ensemble de la cavité buccale.

Il n'est pas facile dans certaines circonstances de poser un diagnostic précis: le dentiste doit alors posséder les connaissances nécessaires et un sens clinique éveillé; il doit faire preuve de patience et démêler, tel un écheveau de laine, tous les symptômes parfois contradictoires qu'il rencontre. Il faut, en un mot, qu'il soit imbu de l'importance du diagnostic.

Le public, pour accorder à la profession dentaire, toute la considération qui lui est due, doit se rendre compte que ses membres mettent tout en oeuvre pour identifier la cause réelle de ses ennuis. Des traitements approximatifs, des demi-mesures et un désintéressement par trop évident ("C'est un mal imaginaire!") atténuent la confiance que le patient possède dans son dentiste. Un groupe professionnel se crée une réputation grâce à l'épanouissement de la science et l'art du diagnostic; les réalisations techniques et le travail mécanique restent au second plan des services de santé publique dans l'estime des gens clairvoyants. Une profession est autre chose qu'un métier ou qu'un artisanat!

Le dentiste est placé dans une situation privilégiée pour déceler le premier dans les muqueuses buccales et les tissus dentaires des signes de désordres constitutionnels.

Il peut, à l'aide de la radiographie, des tests vitalométriques, de modèles d'étude élaborer un plan de traitement qui restitue à l'appareil masticatoire ses fonctions physiologiques.

Ces épreuves propédeutiques doivent s'appuyer sur l'histoire médicale et dentaire du malade avant le choix de la thérapie appropriée:

1) *Influence de l'état général sur les tissus de la cavité buccale*

Voici quelques exemples de ces examens qui révèlent des rapports entre l'état constitutionnel et des désordres locaux de la cavité buccale:

- a) déséquilibres hormonaux: gingivite et tumeur de grossesse;

- b) problèmes alimentaires: avitaminose C, chéilite, scorbut, déficience en vitamine B;
 - c) stomatites infectieuses: le diabète prédispose à l'infection, qui à son tour dérègle le dosage physiologique de l'insuline;
 - d) lésions pré-cancéreuses, hyperkératose avancée, et leurs signes, permettant au dentiste de rendre des services inappréciables au patient, en le dirigeant vers des centres spécialisés;
 - e) leucoplasie, souvent secondaire à une irritation chronique telle que dent brisée, tabac, alcool, obturations irritantes, etc.;
 - f) troubles auriculaires, otalgies, vertiges, bourdonnements causés par l'inflammation d'une région de l'articulation mandibulaire²;
 - g) obstruction nasale: peut être occasionnée par des anomalies dentaires, si les adénoïdes, le sinus, une déviation du septum nasal ou une rhinite allergique ne peuvent être mis en cause³;
 - i) inflammation de la muqueuse du pharynx et de ses parties avoisinantes causée par une périodontite ou une dent de sagesse en éruption;
 - j) allergie aux différents métaux contenus dans la cavité buccale et dékératinisation de la langue.
- #### 2) *Facteurs influençant le diagnostic*
- a) les lésions de toutes les régions de la cavité buccale, du pharynx; palpation des régions cervicales et des articulations mandibulaires;
 - b) perte de dimension verticale à la suite d'extraction de molaires (non remplacées);
 - c) croissance dentaire anormale (malposition);
 - d) anodontie partielle ou totale, déplacement centrique; absence des points de contacts;
 - e) courbe horizontale anormale, molaires bloquant les mouvements latéraux de la mandibule (contacts prématurés);

- f) développement anormal de la mandibule (prognatisme);
- g) bruxisme (usure des dents et traumatisme à l'articulation mandibulaire);
- h) douleur locale et sa diffusion (adénite, cellulite);
- i) manifestations cardinales d'une maladie (douleur, céphalées, faiblesse, dyspnée, spasme cardio-vasculaire, perte de poids, etc.).

3) *Interprétation radiologique*

Les radiographies, appuyées d'une bonne histoire de cas et d'un examen clinique complet, sont indispensables au diagnostic des pathologies dentaires. L'interprétation des pellicules doit se faire d'une façon méthodique et d'après une procédure identique. Les observations doivent se centrer sur les points suivants:

- a) lamina dura — épaisseur, continuité;
- b) espace occupé par la membrane périodentaire — variation de l'épaisseur de cet espace;
- c) relation de la crête alvéolaire avec la jonction énamo-dentinaire;
- d) modification de la structure osseuse à l'apex des dents—zones radiolucides, radiolucidité des cellules osseuses;
- e) dents incluses, racines;
- f) situation des sinus maxillaire — opacité;
- g) inflammation des tissus de l'articulation mandibulaire, mesure de l'excursion des condyles.

4) *Modèles d'étude*

Les modèles d'étude servent à observer certains signes difficiles à déceler dans la bouche du patient. Ils sont utiles pour évaluer et déterminer:

- a) la fonction de l'occlusion;
- b) le rendement des appareils ou des prothèses actuels;
- c) le plan de traitement à l'aide de restaurations amovibles ou fixes;
- d) l'éducation du patient en matière de ses déficiences masticatrices et de projets de réhabilitation.

5) *Vitalométrie*

L'excitabilité de la pulpe dentaire est en relation avec son état physiologique; grâce à ce principe, le vitalomètre permet de fixer d'une façon assez juste le degré de vitalité de la pulpe, son inflammation, sa destruction. Les renseignements obtenus à la suite de ces examens sont étudiés dans leur ensemble pour établir un plan de traitement qui peut se diviser en trois phases: médicale, préparatoire ou préliminaire, définitive.

1) *Traitement médical*

L'examen de la bouche a peut-être révélé des signes qui sont d'ordre constitutionnel; il faut donc référer le malade à son médecin pour traitement des causes de ces désordres, selon l'histoire de cas qui a été établie et selon les symptômes buccaux.

2) *Traitement préliminaire*

Il faut, en tout premier lieu, abolir ou atténuer considérablement la douleur dont souffre le patient. Ensuite préparer l'appareil masticatoire et les tissus environnants en vue du traitement définitif. Ces préparatifs peuvent se classer de la façon suivante:

- a) chirurgie: élimination des dents non traitables; avulsion des dents et des racines incluses, gingivectomie, alvéolectomie, correction des crêtes;
- b) périodontie: curettage, rétablissement du tonus des gencives, polissage des surfaces dentinaires, etc;
- c) contrôle de la carie: pansements sur dents cariées profondément;
- d) endodontie: traitement des canaux radiculaires affectés, apicectomie pour kystes, etc;
- e) orthodontie: malocclusions et malpositions, sans égard à l'âge du patient;
- f) meulage sélectif pour équilibrer l'occlusion.

3) *Traitement définitif:*

reconstruction et réhabilitation:

- par des obturations, la protection ou le traitement des dents présentes et des tissus connexes;
- rétablissement des points de contact;
- remplacement des dents absentes;
- balancement d'occlusion;
- couronnes et ponts;
- jumelage des dents fragiles, dents dont les alvéoles sont partiellement détruites;
- partiels amovibles, si des ponts ne peuvent être construits;
- implants, selon le cas;
- les prothèses complètes constituent la dernière étape, lorsque toutes les ressources conservatrices sont épuisées.

Etude de cas particuliers

Les cas suivants illustrent l'importance d'observations méticuleuses pour l'établissement d'un diagnostic précis et d'un plan de traitement adapté aux pathologies en cause.

Cas no 1

Monsieur J. B. se présente pour un examen et le nettoyage de ses dents.



Photo no 1

Histoire de cas no 1: occlusion fermée; incisives inférieures recouvertes des supérieures

L'explorateur ne décèle aucune carie et, à l'examen sommaire, toutes les dents sont présentes. Le patient a trente-deux ans et ne se plaint d'aucune douleur dentaire. Toutefois, la bouche fermée montre un replis sous la lèvre inférieure, déterminant une ride profonde entre la lèvre et le menton (signe d'une occlusion trop fermée). On constate, à l'ouverture des lèvres, que les incisives supérieures recouvrent la totalité des incisives inférieures et tracent une empreinte des bords incisifs supérieurs sur la gencive inférieure. (Photo no 1). Un questionnaire sur l'état de santé ne révèle rien, si ce n'est des maux de tête fréquents. Le monsieur s'étonne de l'intérêt porté à ces céphalées, parce qu'en effet il souffrait de douleur dans la région occipitale depuis seize ans. Il s'était fait à l'idée, ayant consulté quelques cinquante médecins, qu'aucune thérapeutique ne pouvait l'aider. Il avait cru inutile de mentionner ces ennuis à un dentiste, parce qu'il ne pouvait pas concevoir de rapports entre sa douleur et ses dents.

La radiographie des dents et de l'articulation mandibulaire ne révèle aucune pathologie: il faut considérer une cause physiologique. Les pellicules montrent l'absence de ses quatre premières molaires;



Photo no 2

Histoire de cas no 1: support temporaire placé sur les dents inférieures.



Photo no 3

Histoire de cas no 1: cas terminé, avec support permanent.

on établit la date de la disparition de ces dents: entre 12 et 16 ans. Aucun dentiste, à notre stupéfaction, n'avait suggéré de remplacer ces dents pour maintenir normales les relations occlusales. Les molaires de 12 ans se sont déplacées en direction mésiale pour combler l'espace créé par la disparition des premières molaires; les prémolaires ont migré en direction distale et les dents de sagesse sont venues compléter les modifications de l'arcade dentaire. Ce changement a produit un affaissement de l'articulation d'environ 3 mm. et une occlusion de classe II.

La radiographie de l'articulation présente, en position occlusale, (photo no 1) une pression postérieure anormale des condyles dans les cavités glénoides; cette pression inusitée, à gauche et à droite, est l'explication de ces maux de tête.

Traitement:

- a) prophylaxie (but de la consultation);
- b) support de tolérance (acrylique) pour surélever l'occlusion; (photo no 2)
- c) support permanent, après contrôle du niveau d'occlusion idéal.

Résultats:

La céphalée est complètement disparue, vingt-quatre heures après l'insertion du support temporaire; depuis ce temps, le patient n'a plus consommé d'aspirine (il s'était fait à l'idée de vivre avec de l'acide acétylsalicylique jusqu'à la fin de ses

jours). Deux ans plus tard, le patient était encore des plus heureux. (Photo no 3)

Cas no 2

Monsieur L. G., 38 ans, homme d'affaires, se présente pour examen de sa bouche. Aucune douleur dentaire. Sa seule préoccupation: bruxisme. Sujet tendu, nerveux.

Examen objectif: perte des molaires du même côté $\frac{765}{76}$; hypertrophie des

gencives couvrant les 2/3 des couronnes des dents supérieures, côté gauche. Usure des cuspes des molaires supérieures et inférieures, côté gauche. (Photo no 4)

Vitalométrie: toutes les dents sont vivantes.

Radiologie: structure osseuse parfaite; articulation mandibulaire: aucun espace interarticulaire, suggérant un écrasement du ménisque gauche surtout; aucune douleur.

Plan de traitement:

- a) calmants à base de meprobanate
- b) gingivectomie
- c) surélévation de l'occlusion avec support temporaire, surtout du côté gauche
- d) réhabilitation des dents par jumelage et couronnes et ponts.

Les 1^{ère} et 2^{ème} étapes ont suffi à détendre temporairement le patient et lui faire retrouver des gencives normales.



Photo no 4

Histoire de cas no 2: déviation de la mandibule, à droite; tension nerveuse.



Photo no 5

Histoire de cas no 2: avant traitement définitif, après gingivectomie.

L'étape no 3, c.-à-d. l'insertion d'un support temporaire pour relever l'occlusion du côté gauche (élévation: 1 mm.) a déclenché chez le patient des vertiges inusités; il n'osait plus conduire sa voiture, il se sentait en état d'insécurité, etc. La modification de la hauteur occlusale avait donc provoqué chez lui des perturbations étranges. Le patient recouvre son confort, à la séance suivante, quand on lui pose un support du côté droit pour équilibrer celui du côté gauche. (Photo no 5)

La correction des relations du condyle avec la cavité glénoïde doit se faire avec prudence; un déséquilibre spontané d'un seul côté peut occasionner des vertiges (syndrome de Costen).



Photo no 6

Histoire de cas no 2: cas terminé.

Résultats: amélioration de l'esthétique; disparition du bruxisme; confort physique et psychique du malade. (Photo no 6)

Cas no 3

Madame R. L., 32 ans, se présente pour extraction de la deuxième molaire supérieure, côté gauche. Elle se plaint de douleur aiguë, intermittente, surtout le matin, dans toute la région supérieure, côté gauche.

Histoire dentaire

Un pont inférieur droit a été mis en place il y a un an (7654 |).

Trois mois plus tard, des névralgies ont débuté au maxillaire supérieur gauche. Elle eut à cette époque deux consultations avec des neurologues différents qui posèrent le diagnostic de tic douloureux et qui lui conseillèrent une section chirurgicale du trijumeau. Effrayée à la pensée de la paralysie imminente d'un côté de la figure, elle consulte un dentiste qui lui conseille des traitements d'endodontie sur les dents 36; ces dents supportent un pont pour remplacer les deux prémolaires absentes. Les pulpotomies entreprises au travers les attaches de pont ne donnent aucun soulagement à la malade.

Celle-ci consulte un oto-rhino-laryngologiste, un autre neurologue et la situation demeure toujours la même: la douleur persiste et tous ces médecins croient qu'il s'agit d'un tic douloureux.

La patiente, craignant toujours l'intervention chirurgicale, fait enlever le pont supérieur et ensuite la première molaire supérieure qui montre une lyse osseuse à la racine palatine. La douleur névralgique ne disparaît pas. La deuxième molaire reste en place: elle est saine; la patiente désire la faire extraire, avant de se soumettre à l'opération chirurgicale suggérée par les neuro-chirurgiens.

Examen dentaire et radiologique

Aucune carie à la deuxième molaire; les racines sont solides, saines et l'os périphérique normal. La canine supérieure (côté gauche) est dévitalisée et montre une légère raréfaction apicale. Les dents inférieures sont toutes présentes et normales.

Une pression faite avec les doigts à la région sous-orbitaire n'apporte aucune réaction douloureuse. L'occlusion des dents, sans pression, indique un contact prématuré qui s'exerce uniquement sur la canine et la deuxième molaire. Le côté droit est en sous-occlusion.

Diagnostic: traumatisme excessif sur les dents du côté gauche.

Traitement: le meulage des dents du côté gauche pour équilibrer l'occlusion fait disparaître instantanément la douleur qu'on croyait être un tic douloureux. Les extractions et les traitements d'endodontie avaient été faits en pure perte: les dents et leurs racines étaient simplement traumatisées par une malocclusion évidente, cause de la douleur depuis six mois.

Cette patiente, grâce à sa crainte de l'opération, a pu éviter jusqu'ici une résection de son trijumeau en subissant un examen dentaire à fond.

Cas no 4

Mad. T. J., 38 ans, se présente pour la refaçon de prothèses complètes, supérieure et inférieure. Elle se plaint de douleur très forte à la nuque, étourdissements et vomissements depuis deux ans.

Histoire dentaire: la patiente porte les mêmes prothèses depuis vingt ans; elle a perdu ses dents, à l'âge de 18 ans, à cause de "pyorrhée alvéolaire".

Examen clinique: ride prononcée sous la lèvre inférieure, indiquant une hauteur verticale trop basse. La crête inférieure est très affaissée et la muqueuse est hyperplasiée; cette hyperplasie bouge à la pression des doigts.

Examen radiologique: présence d'une racine dans la région supérieure gauche (canine); les trous mentonniers sont à surface alvéolaire. L'espace interarticulaire de l'articulation mandibulaire, côté gauche, paraît rétréci, en position "bouche fermée", et indique une pression postérieure dans la cavité glénoïde.

Plan de traitement:

- extraction de la racine;
- ablation du tissu hyperplasié;
- support de tolérance en acrylique sur les prothèses actuelles;

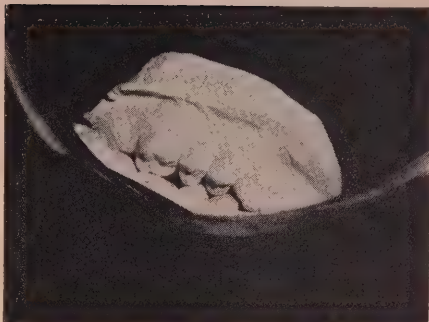


Photo no 7

Histoire de cas no 5: modèles de la malocclusion: inclinaison linguale des inférieures.

- confection de nouveaux dentiers à hauteur verticale normale.

Résultats: disparition spontanée, dès l'insertion des supports de tolérance, des douleurs à la nuque, des vomissements. La patiente est heureuse depuis qu'elle a des prothèses confectionnées de façon à ne pas causer de pression dans son articulation.

Cas no 5

Mad. M. C., 38 ans, se présente pour l'examen de ses dents; elle se plaint de légère douleur à l'articulation mandibulaire du côté gauche, quand elle mastique ses aliments.



Photo no 8

Histoire de cas no 5: modèles de la malocclusion: Vue de face.

L'examen des dents montre une denture propre, complète et exempte de carie.

Les prémolaires et molaires inférieures, coté droit, sont lingualées au point de n'avoir aucun contact avec les dents supérieures antagonistes. (Photos no 7 et no 8)

Les radiographies dentaires sont négatives; les pellicules des condyles montrent un espace condylien réduit, du coté droit, en comparaison avec le coté opposé. Les modèles d'étude, les radiographies et l'examen clinique suggèrent le diagnostic suivant: malocclusion des dents du coté droit causant une dysfonction de l'articulation mandibulaire du coté droit. Le plan de traitement s'établit ainsi: a) traitement d'orthodontie pour redonner à l'occlusion du coté droit des relations normales (molaires et prémolaires); b) support de contention pour maintenir les dents dans leur position normale. Les résultats sont les suivants: articulation balancée normale, meilleure mastication, disparition des ennuis dans l'articulation. On peut noter ici que le déplacement des dents peut se faire à tout âge; le maintien des dents dans leur nouvelle situation pose toutefois un problème: il faut adapter un moyen de contention adéquat. (Photo no 9).

CONCLUSIONS

Un diagnostic systématique effectué en regard d'une histoire complète de l'état général et dentaire du malade est nécessaire pour établir un plan de traitement efficace. Les articulations mandibulaire et dentaire ont des rapports étroits et occasionnent souvent des pathologies qui ne sont pas de nature infectieuse; les dysfonctions de l'articulation mandibulaire sont fréquemment causées par un engrenement fautif des dents, l'absence de dents, des points de contact déficients, des restaurations imparfaites.

Tous les cas de malocclusion qui sont traités par des restaurations fixes ou amovibles exigent qu'on respecte la position des dents naturelles. Il est important de surveiller l'équilibre des pressions masticatoires et ce dans toutes les posi-



Photo no 9

Histoire de cas no 5: cas terminé.

tions possibles. A la fermeture en centrique, une légère pression sur les antagonistes doit s'exercer avec la même intensité sur toutes les molaires et prémolaires des deux côtés, sans toucher les antérieures. L'espace normal entre le condyle et la cavité glénoïde doit être sauvegardé. Les mouvements latéraux doivent s'exécuter sans blocage de la part des cuspes.

Il faut abaisser les cuspes surélevés. Les dents antérieures doivent glisser les unes sur les autres sans croisement exagéré, surtout s'il y a prothèse amovible. Le meulage des cuspes susceptibles d'occasionner un traumatisme se fait en respectant les principes de l'équilibration d'occlusion: meulage des cuspes proéminents buccaux des dents supérieures et des cuspes linguales des dents inférieures. Les mouvements de propulsion, en tenant compte des circonstances, doivent être complètement libres en présence de prothèse amovible et partiellement en présence d'une restauration fixée aux dents.

Il est étonnant, au cours de l'interprétation des radiographies d'arcades complètes, de découvrir un nombre aussi imposant de granulomes à l'apex d'incisives inférieures saines; ces pathologies pulpaires sont le résultat du traumatisme articulaire. La décoloration de l'émail frappe un oeil

averti. Un grand nombre de dents perdent leur vitalité à la suite de traumatisme d'articulation après avoir été couronnées ou obturées en suroccclusion. Les meules et les fraises, malgré leur dispositif de refroidissement à l'air et à l'eau, sont parfois responsables de mortification pulpaire. Le traumatisme opératoire, comme le traumatisme articulaire, peut se minimiser. Une dent en suroccclusion, dont le canal a été obturé parfaitement et qui ne présente aucun symptôme radiologique de raréfaction apicale, peut, si elle demeure ainsi, donner naissance à un

granulôme. De même, une malocclusion peut causer une hypertrophie gingivale et favoriser le bruxisme. Des migraines, des bourdonnements d'oreilles, des vertiges et des douleurs constantes ou intermittentes sur le trajet du trijumeau sont souvent le résultat de trouble articulaire. Nous ne pouvons jamais trop surveiller l'équilibration d'occlusion et la hauteur d'occlusion normale.

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L'anglicisme est courant au Québec

par Paul-E. Poitras, D.D.S., Montréal

Je voudrais voir triompher la cause de la langue française, malgré l'indifférence à peu près générale des Canadiens.

Parce que j'ai oublié quantité de lois de la syntaxe française, il serait ridicule d'amonceler sur ma tête les foudres des puristes qui excusent des imperfections, mais ne pardonnent pas les fautes de paresse, alors que même une science grammaticale incomplète ne leur laisse pas le loisir de tolérer maintes erreurs de l'écrit et de la parole.

Le français est une langue vivante: donc elle est sujette à des changements.

L'évolution du latin s'accrût davantage à l'époque où les orateurs, les littérateurs, les historiens de la Rome antique se permirent d'utiliser des substantifs étrangers, venus des provinces conquises, par suite d'une admiration factice. Ils ont concouru involontairement à la formation des idiomes espagnols, français, italiens, portugais, roumains et ont transmis à ces nouvelles langues leur étymologie latine.

Les peuples ont le droit d'ajouter, de modifier, de retrancher des mots selon les besoins du moment, mais je réagis à ma manière lorsque notre paresse intel-

lectuelle change la signification, néglige le sens, omet la traduction de phrases étrangères.

Je conçois que la connaissance de l'anglais et du français de mes compatriotes est un moyen facile de comprendre les termes techniques anglo-saxons. Est-ce une raison de ne pas traduire des expressions qui rendent parfaitement l'idée de l'auteur? Est-ce une raison de ne pas chercher les mots exacts?

Je suis assez large d'esprit pour accepter les substantifs des langues étrangères consacrés par l'usage et la pratique. Pourquoi les ignorer!!!

Alors que le peuple exprime sa pensée à l'aide de mots connus, les grammairiens, en retour, devraient favoriser les phrases françaises qui conserveraient la signification des locutions américaines, anglo-saxonnes.

Du fait que l'ouvrier du Québec a une connaissance imparfaite de l'anglais et du français, ses narrations sont parfois émaillées de tournures incorrectes: conséquence normale d'un vocabulaire pauvre.

Combien de fautes seraient écartées si les intellectuels, se remémorant les règles des manuels enseignées dans les écoles, bannissaient de la conversation les expressions impropres et se servaient de termes adéquats.

L'adjectif anglais, **PROFESSIONAL**, l'adjectif français, **PROFESSIONNEL**, ont une signification distincte: l'occupation professionnelle consiste à maîtriser tel ou tel métier, à faire sa profession d'une chose et à laisser ouvrir les menus travaux domestiques au bricoleur.

Les anglais disent: a **PHYSICIAN** is a **PROFESSIONAL** man, les français traduisent: un **MÉDECIN** a une **PROFESSION LIBÉRALE**, une **CARRIÈRE LIBÉRALE**.

Par manque d'érudition, par nonchalance, nous employons une foule de mots anglo-saxons. Malgré la crainte d'en fausser l'interprétation, je vous donne quelques exemples:

Boxing in	Coffrage
Centric occlusion	Occlusion centrale
Contention	Contentif
Dental dummy	Dent postiche
Dental floss	Soie floche dentaire
Dental office	Cabinet dentaire
Pinledges wax	Pivot de cire
Planning	Etude
Postdam	Rétention postérieure
Relaxation	Détente
Slip joint	Poignet articulé
Space maintainer	Appareil contentif
Twin arch	Arc et tige tubulaire
Unit equipment	Équipement unifié

Cette transposition de l'anglais au français est mienne. J'admets qu'elle n'est pas nécessairement la meilleure, c'est pourquoi je serai toujours disposé à la changer pour des expressions reconnues des spécialistes linguistiques.

Rien ne s'oppose à ce qu'une association nationale ou internationale, faisant un travail sérieux dans le domaine de la terminologie, trouve une traduction plus conforme au génie de la langue laquelle j'accepterai sans commentaire.

Les barbarismes, les non-sens, les pléonasmes, les solécismes sont nombreux dans le langage quotidien. Ces imperfec-

tions n'empêchent pas les individus, en parlant des maladies de la bouche, de ne se servir que d'un dénominatif commun: "**PYORRHEE**" (du grec; rayonnement de pus). Le substantif "**pyorrhée**," vulgarisé par l'annonce, est conforme à l'esprit français, mais je reconnais que parler de pyorrhée sèche soit un non-sens et parler de pyorrhée suppurée soit un pléonasme inutile.

Les langues vivantes et les langues mortes, enseignées dans les écoles secondaires, accroissent notre vocabulaire et permettent d'éviter une quantité de manquements aux lois grammaticales.

La lecture d'un article, publié dans un grand quotidien de Montréal: "*L'enfant qui suce son pouce*" m'a rémemoré une expression régulièrement employée "*Suçage de pouce*." Cette expression, je suppose, n'est pas française puisque le mot "*Suçage*" est absent de tous les dictionnaires que j'ai consultés. Pourquoi créer un néologisme? Le substantif "*Succion*" est un mot reconnu par l'Académie.

En juin 1944, la Législature de Québec votait des statuts (George VI — chapitre 43) à une association d'artisans; elle les nommait "*Techniciens dentaires*." Le substantif composé d'une racine grecque et d'une racine latine avait été suggéré par les gouverneurs du Collège des Chirugiens-Dentistes de la province de Québec. Ces ouvriers ont gardé le nom de "*Mécaniciens-dentistes*" malgré qu'en 1869, les fondateurs de l'Association des Chirugiens-Dentistes de la province de Québec les appelaient "*Odontotechniciens*" de deux racines grecques: *Odous* et *Tekhné*.

Personne parle aujourd'hui des odontotechniciens. Les mécaniciens-dentistes seront sans doute bientôt un souvenir du passé, parce que le gouvernement, en donnant des lois à des artisans, les a appelés "*Techniciens dentaires*."

L'héritage, légué par les dentistes d'autrefois, a été la cause directe d'une plus grande science dentaire au désavantage de la science linguistique. Personne n'a pensé que nos successeurs nous jugeront de la même manière que nous jugeons les autres.

2043, rue St-Denis

Congrès de l'Association dentaire de la province de Québec 26, 27, et 28 mai 1960

Château Frontenac — Québec

Cher confrère,

Vous avez reçu le programme préliminaire du Congrès de l'Association Dentaire du Québec, qui aura lieu au Château Frontenac, à Québec, les 26, 27 et 28 mai 1960.

La première journée est entièrement consacrée aux "Techniques nouvelles en prothèse". Les organisateurs de ces journées d'études ont réservé une période de temps aussi longue au Dr Roland Baribeau, parce qu'il nous présentera un travail des plus intéressants et des plus pratiques. Il serait vraiment regrettable que vous arriviez en retard!

Les deux autres journées sont aussi bien remplies. Pas moins de 12 conférenciers traiteront des sujets les plus variés. Inutile d'ajouter qu'ils feront ressortir d'une façon concise ce qu'il y a de plus nouveau et de plus pratique, chacun dans leur spécialité.

Le président du Collège, le Dr Jean-Paul Lachapelle, adressera un message de la plus grande importance à tous les confrères.

**SOYEZ PRESENT . . . SINON VOUS VOUS DIREZ:
"J'AURAIS BIEN DÛ Y ALLER!"**

Formule d'inscription

Nom

Adresse

Ci-inclus \$20.00..... \$30.00.....
(Seul) (avec épouse)

Veuillez réserver une chambre..... (double) (simple)

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Dr Jacques Dufour
401 Grande-Allée
Québec, P.Qué.

Nouvelles du Corps Dentaire Royal Canadien

Promotion du capitaine Fafard

Le Quartier-Général de l'Armée a annoncé l'avancement du capitaine P.-É. Fafard au grade de major, à compter du 16 janvier 1960.

Le major P.-É. Fafard est né à Eastend (Sask.) en 1919. Il a étudié l'art dentaire à l'Université de Montréal où il a reçu son diplôme en 1951. Il est aussi titulaire d'un B.A. Pendant la guerre, il avança du grade de simple soldat à celui de capitaine dans l'infanterie. Il fut aussi blessé au combat. Après s'être enrôlé au grade de capitaine dans le RCDC, en juin 1951, il a servi dans les Régions militaires du Québec et des Prairies, ainsi qu'en Allemagne et dans la Région militaire du Centre. Il est actuellement en service à la Station de l'Aviation royale du Canada, à Clinton (Ont.). Le major Fafard est marié et père de quatre enfants.

Des officiers du RCDC suivent des cours aux É.-U.

Les officiers ci-après suivent actuellement ou ont suivi des cours post-universitaires aux États-Unis. Ce sont:

Le colonel B. P. Kearney, Camp Borden (Ont.), un cours de radiographie à l'Université de Michigan, Ann Arbor, Michigan.

Le lt-col. C. E. Purdy, Winnipeg (Manitoba), un cours supérieur d'art dentaire au Walter Reed Army Institute of Research, Walter Reed Army Medical Centre, Washington, D.C.

Le lt-col. R. B. Jackson, Ottawa (Ont.), un cours sur la fabrication des dentiers partiels à la U. S. Naval Dental School, Bethesda, Maryland.

Le major Brick dans le Grand Nord

Le major J. C. Brick, de la Direction des Services dentaires, à Ottawa, peut probablement réclamer la distinction d'avoir été, parmi les dentistes, au Canada, celui qui a donné des soins dentaires dans l'endroit le plus septentrional, au cours d'un voyage qu'il a fait au commencement de février à Alert, dans les Territoires du Nord-Ouest et à Thulé, au Groënland. Le premier endroit est situé à 450 milles seulement du pôle Nord.

Affectations

Les nominations suivantes ont été faites récemment parmi les officiers dentaires du Corps:

Le major A. R. Ramsay a été transféré du "Bonaventure" à Montréal.

Le major P.-H. Guévremont a été transféré de la Station de l'ARC, à Saint-Hubert (P. Qué.) au "Bonaventure".

Nomination d'une Commission consultative auprès du CDRC

Le Quartier-général de la Défense nationale a annoncé qu'une Commission consultative composée de civils sera nommée dans un avenir prochain auprès du Corps Dentaire Royal Canadien.

Les fonctions de cette commission consisteront à conseiller le Directeur général des Services dentaires en ce qui touche les divers domaines spécialisés qui se rapportent aux services dentaires dans les forces canadiennes et à assurer un service de consultation au sujet des problèmes dentaires particuliers et des aspects plus généraux du programme de traitements dentaires et de l'instruction des officiers dentistes et des spécialistes auxiliaires.

Pour le moment, la Commission se composera de huit membres qui représentent les spécialités suivantes: l'orthodontie, la dentisterie opératoire, la périodontie, la chirurgie, la prothèse, le diagnostic, la radiologie, les recherches et la déontologie.

Les membres de la Commission sont nommés pour trois ans. Leurs noms seront publiés dans le prochain numéro du Journal.

Promotion du major Bagnall

Le Quartier-général de l'Armée a annoncé la promotion du major S. G. Bagnall au grade de lieutenant-colonel, à compter du 15 février 1960.

Le lt-col. Bagnall est né à Sydney (N.-É.) en 1922. Il a étudié l'art dentaire à l'Université Dalhousie où il a reçu son diplôme en 1945. Après s'être enrôlé dans le CDC, en juillet 1945, il a servi successivement à Halifax, à Rivers (Man.), à Winnipeg, en Corée et en mer à bord du "Warrior" et du "Magnificent". En décembre 1957, il a été nommé à son poste actuel d'instructeur en prothèse dentaire à l'École du CDRC au Camp Borden. Le lt-col. Bagnall est marié et père de trois enfants.

Le lieutenant-colonel Oldfield prend sa retraite

Le Quartier-général de l'Armée a annoncé que le Lt-col. S. K. Oldfield, du Corps Dentaire Royal Canadien, a pris sa retraite le 15 février 1960.

Le Lt-col. Oldfield, qui est natif d'Halifax, a fait ses premières études à Halifax et à Pictou (N.-É.), et ses études en art dentaire, à l'Université Dalhousie où il a reçu son diplôme en 1929. Avant la guerre, il était employé du gouvernement provincial de la Nouvelle-Écosse et faisait partie du personnel de l'Hôpital Général Victoria, à Halifax. C'est en 1930 qu'il devint membre de l'Armée en servant dans la Milice jusqu'à son enrôlement dans le CDRC, en juillet 1940. Au cours de la guerre, il a servi outre-mer en Italie et au Royaume-Uni, de 1941 à 1944. Il a ensuite été affecté successivement aux Régions militaires de l'Est, de l'Ouest et du Centre, de même qu'à l'École du CDRC et à la Direction des Services dentaires. Le dernier poste qu'il a occupé a été celui de conseiller en chef, à la Station de l'ARC, à Trenton (Ont.).

Tous les membres du Corps souhaitent tout le succès possible au lieutenant-colonel et à Madame Oldfield qui résideront à Toronto.

Réunions

Le colonel G. B. Shillington, sous-directeur général des Services dentaires, a dirigé, dans l'après-midi et la soirée du 12 mars, une clinique sur la confection des dentiers partiels, à la Société dentaire de London et des environs.

Le major J. C. Brick, de la Direction des Services dentaires, a présenté une causerie et un film sur les soins à donner en cas de pertes en masse, le 18 janvier, à une réunion tenue à la Société dentaire d'Ottawa.

Le Lt-col. G. R. Covey, commandant de la

35e Unité dentaire de campagne, en France, a prononcé une causerie à la réunion de février de la Société dentaire des forces alliées.

Cours

Les officiers dentistes ci-après ont suivi récemment des cours post-universitaires. Ce sont:

Le major C. G. B. Grant, H.M.C.S. "Stadacona", Halifax, un cours sur les maladies périodentaires, à l'Université de Toronto.

Le major A. R. Ramsay, Montréal, (P. Qué.), un cours sur les maladies périodentaires, à l'Université de Toronto.

Le major J. M. Smith, Station de l'ARC, Goose Bay (Lab.), un cours sur les maladies périodentaires, à l'Université de Michigan, Ann Arbor, Michigan.

Le major W. R. Thompson, Camp Gagetown (N.-B.), un cours en chirurgie buccale, à la U.S. Naval Dental School, Bethesda, Maryland.

Le capitaine J. J. N. Wright, Camp Borden (Ont.), un cours en endodontie, à l'Université de Toronto.

Le Lt-col. Butcher en service à bord du "H.M.C.S. Cape Scott"

Le Lt-col. N. A. Butcher, de Melancthon (Ont.), est actuellement en service à bord du "Cape Scott", nouveau navire de ravitaillement de la MRC sur la côte est.

Libérations

Les officiers suivants ont été libérés du Corps pour devenir dentistes civils, ce sont: Le major J. P. R. Guay, de Lauzon (P. Qué.).

Le capitaine J. R. Fraser, d'Amherst, (N.-É.).

Le major J. E. Hughson, de Galt (Ont.), a obtenu sa libération du RCDC pour devenir dentiste civil, à Alliston (Ont.).

Congrès de la Société française d'orthopédie dento-faciale

"Le Congrès de la Société Française d'Orthopédie Dento-Faciale aura lieu à Paris les 25-26-27 et 28 mai 1960 à la Faculté de Médecine.

De nombreuses communications et tables cliniques seront présentées ainsi qu'un Rapport sur "L'ARTICULATION TEMPORO-MANDIBULAIRE ET LES DYSMORPHOSES" et une question mise en discussion portera sur "LES INDICATIONS THERAPEUTIQUES DES EXTRACTIONS EN ORTHODONTIE".

Les confrères canadiens sont cordialement invités à cette manifestation qui comportera, en plus de la partie scientifique, des réceptions et des promenades.

Pour les communications, renseignements et inscriptions, s'adresser:

Dr G. J. A. GUGNY, 20 rue de Mogador, PARIS IX^e—

ou
Dr B. BECK, 118 rue du Maréchal Joffre, Colombes. (Seine)

Nouvelles de l'Association

Première réunion des secrétaires des Collèges provinciaux

Les registraires des Collèges des Dentistes de toutes les provinces du Canada se sont réunis pour la première fois au secrétariat de l'Association dentaire canadienne, à Toronto, pour discuter de problèmes communs. Les secrétaires de tous les organismes qui octroient des licences et ceux de quelques associations dentaires bénévoles de certaines provinces assistaient aussi à la réunion. On a émis le vœu, à la fin de l'assemblée, que cette réunion ait lieu chaque année. On a discuté des fonctions d'un bureau de secrétaire, des Plans de Services Dentaires Incorporés, du Plan d'Epargne-Retraite de l'A.D.C., des rapports qui existent entre les organismes nationaux et provinciaux et du Journal de l'A.D.C. On a aussi entrepris une revue complète de la question du personnel auxiliaire et de certaines législations que se proposent certaines provinces.

Le docteur W. G. McIntosh, président de l'A.D.C., a ouvert les assises et le secrétaire de l'Association, le docteur Don W. Gullett, a été élu président de la réunion. Cette assemblée a été organisée sous les auspices de l'Association dentaire canadienne avec l'appui de chaque province.

Réunion de l'Exécutif de l'A.D.C.

Le Comité Exécutif de l'A.D.C. s'est réuni au secrétariat de Toronto, durant trois jours, en février dernier, sous la présidence du docteur William G. McIntosh. Plusieurs questions relevant des fonctions de l'A.D.C. y ont été discutées, notamment la question des finances, l'organisation de congrès, le rôle du personnel auxiliaire dans le domaine des recherches et d'autres problèmes de grande importance.

L'Exécutif a transmis ses meilleurs vœux au docteur S. J. Phillips, le président du Comité des Finances, qui ne put assister à l'assemblée; le docteur Phillips est en convalescence à la suite d'une crise cardiaque.

Deux plébiscites rejettent la fluoruration

La population des villes de Charlottetown, Idu-P.-E. et de Hinton, Alberta, viennent de voter contre l'adoption de la fluoruration dans des plébiscites tenus dans ces deux endroits. A Charlottetown, malgré l'appui effectif des dentistes, des médecins, des clubs sociaux et des journaux, les votes en faveur de cette mesure se sont chiffrés à 1,513, tandis que ceux la rejetant se sont établis à 1540, une différence de seulement 27 votes.

A Hinton, 60% des votes favorisaient la fluoruration, mais il faut une majorité des deux tiers pour que la fluoruration soit adoptée.

Les derniers chiffres publiés aux Etats-Unis indiquent que 1,892 municipalités ont adopté la fluoruration pour desservir 36,849,021 personnes. Plus de 7,000,000 d'individus consomment de l'eau fluorée naturellement.

L'A.D.C. établit un bureau de recherches économiques

Le Comité Exécutif a décidé, à sa dernière réunion, de former à son secrétariat un bureau de recherches économiques. Mlle Isabel Boyd, de Toronto, agira comme directrice de ce bureau.

Mlle Boyd était auparavant économiste en charge de la section de l'organisation hospitalière de la Division des Statistiques et des Recherches de la Commission des Services des Hôpitaux d'Ontario. Mlle Boyd a joué un rôle important dans l'organisation du plan d'assurance-hospitalisation du gouvernement d'Ontario, qui met à la disposition de la plupart des résidents de cette province des services d'hôpitaux.

La nouvelle directrice des recherches économiques est diplômée de l'Université de Toronto en sciences économiques et politiques. Un des objectifs les plus urgents du nouveau bureau est l'assurance-santé et, plus spécialement, les plans de service dentaire. On espère étudier à fond ces questions pour fournir des renseignements fondamentaux dont on a grandement besoin dans le domaine dentaire.

Diminution de la carie dans une proportion de soixante pour cent

La carie dentaire a regressé dans une proportion de 60% à Evanston, Illinois, où les enfants ont passé toute leur vie, depuis que la fluoruration y a été instituée, il y a treize ans. On a fourni ces statistiques à l'occasion de l'anniversaire célébré récemment du début de la fluoruration.

Le directeur de la Commission d'Etude sur la Carie dentaire d'Evanston a présenté, pour rire, au maire de cette ville un similitèque pour la somme de \$154,202, montant que les parents d'Evanston auraient dépensé pour faire traiter les dents de leurs enfants depuis que la fluoruration a été installée en 1947.

Organisation au secrétariat de l'A.D.C. d'un bureau de renseignements destinés au public

L'Exécutif de l'A.D.C. a mis sur pied, en même temps qu'un Bureau des Recherches économiques, un bureau de renseignements à l'usage du public; cette addition aux activités de l'Association montre que ses affaires

prennent de plus en plus d'importance. Le directeur de ce bureau est M. Kenneth L. Croft qui continue d'agir comme assistant-secrétaire. M. Croft, qui a été embauché par l'A.D.C. en 1957, est diplômé en journalisme de l'Université Western Ontario. Le Bureau des Renseignements destinés au public tentera de contrôler et de coordonner les nouvelles au sujet de l'Association et de la dentisterie en général qui parviennent aux dentistes et au public. Le directeur continuera à collaborer au travail du Comité des Relations extérieures de l'A.D.C.

Présentation d'un portrait au docteur Rooney

Le docteur R.-A. "Art" Rooney, secrétaire-registraire de l'Association dentaire d'Alberta, a été honoré récemment au cours d'une réception organisée à cette occasion. Le docteur Rooney fut le président de l'Association dentaire canadienne de 1943 à 1945.

Plus de cent-cinquante dentistes se sont rassemblés pour reconnaître publiquement les nombreuses années que le docteur Rooney a consacrées à l'exercice de la dentisterie, à l'enseignement et à l'organisation de la dentisterie. On fit lecture, durant le dîner, des lettres et des nombreux télégrammes de félicitations venant de toutes les parties du pays. Le clou de la soirée a été le dévoilement d'un portrait du docteur Rooney et sa présentation au docteur Walter Johns, président de l'Université d'Alberta. Cette peinture ornera les murs de la faculté dentaire.

Le docteur Rooney, à 69 ans, continue d'exercer et d'agir comme secrétaire-registraire de l'association provinciale.

Le président et le secrétaire visitent l'ouest du pays

Le voyage annuel du président et du secrétaire de l'A.D.C. aux groupements dentaires de l'ouest du Canada a commencé le 20 février. Au cours du voyage, ils visiteront treize villes, de Sudbury, Ontario, à Victoria, Colombie britannique; ils rencontreront aussi les étudiants des Universités d'Edmonton et de Winnipeg. Le président, le docteur McIntosh, a dû manquer les deux premières visites, à cause de la mort de son père. Il a rejoint le docteur Gullett à Edmonton pour continuer le voyage.

La Fondation Kellogg et son assistance à la dentisterie du Canada

La Fondation K. W. Kellogg a aidé généreusement de ses argents la cause de la dentisterie canadienne. Un supplément du Rapport Annuel de la Fondation, qui a été publié récemment, montre que depuis 1937 elle a versé à des projets dentaires du Canada une somme de près de \$500,000.00. La plus grande partie de ce montant a été donnée aux facultés dentaires et à l'Association dentaire

canadienne. Voici la liste de ces octrois:

	montant versé au octrois 31 août 1959	
Association dentaire canadienne		
pour aider à l'organisation d'un programme d'accréditation et d'un service de consultation pour les facultés dentaires canadiennes	\$ 13,698	\$ 12,113
pour aider à l'organisation d'une série de conférences pédagogiques pour les facultés dentaires canadiennes	3,273	3,273
Université Dalhousie		
pour aider à la réorganisation du programme d'enseignement de la faculté dentaire et à l'organisation et au progrès de l'éducation dentaire dans les régions rurales des provinces maritimes	180,654	161,844
pour établir un système de prêts et de bourses pour les étudiants en chirurgie dentaire	10,000	10,000
Ministère de la Santé et du du Bien-Etre de Manitoba		
pour aider à l'élaboration d'un programme d'hygiène dentaire publique	7,113	7,113
Université McGill		
pour établir un système de prêts et de bourses pour les étudiants en chirurgie dentaire	10,000	10,000
pour payer le salaire de deux professeurs à temps complet, de façon à améliorer l'enseignement et les recherches à la faculté dentaire	63,019	18,900
Université d'Alberta	15,000	15,000
Université de Manitoba		
pour établir un système de prêts et de bourses pour les étudiants en chirurgie dentaire		
Conférence régionale		
pour une réunion destinée à étudier les besoins des provinces de l'ouest pour l'enseignement dentaire..	1,709	1,709
Université de Montréal		
pour aider à l'élaboration d'un plan complet de cours post-universitaires en dentisterie	63,608	63,608
pour établir un système de prêts et de bourses pour les étudiants en chirurgie dentaire	15,000	15,000

Université de Toronto

pour établir un système de prêts et de bourses pour les étudiants en chirurgie dentaire	15,000	15,000
pour aider à l'organisation d'un programme d'instruction pour les hygiénistes dentaires	32,870	32,870
pour aider à l'élaboration d'un plan complet de cours gradués et post-universitaires en dentisterie	20,886	20,886

Bourses d'études (par l'entremise d'un organisme officiel)*

Université Dalhousie (9)	11,038	11,038
Université McGill (4) ...	18,435	18,435
Ministère de la Santé et du Bien-Etre de Manitoba (1)	2,103	2,103
Université d'Alberta (4) ..	16,070	16,070
Université de Montréal (5)	14,562	14,562
Université de Toronto (6)	18,198	18,198
	\$547,296	\$482,782

*Noté: Les chiffres entre parenthèses indiquent le nombre des bourses.

Les dentistes de Suède organisent la célébration d'un centenaire

La Société Dentaire de Suède invite les membres de l'Association dentaire canadienne à assister à la célébration du centenaire de sa fondation, qui aura lieu à Stockholm, du 17 au 20 août 1960. Des hommes de science et des cliniciens de réputation mondiale prendront part à un programme scientifique qui durera quatre jours et qui comprendra des conférences, des symposia, des colloques, des films et des cliniques. Il y aura une exposition d'objets et de publications amassés au cours des dernières cent années pour illustrer les progrès scientifiques et techniques réalisés par la dentisterie. On peut obtenir des renseignements au sujet de ce congrès en s'adressant au secrétaire de la Société Dentaire de Suède, 53 Nybrogatan, Stockholm.

Redéfinition d'un projet

Le docteur Austin Smith, ancien rédacteur du Journal de l'Association médicale américaine, rédacteur en office de l'Association médicale mondiale et président de l'Association des Manufacturiers de produits pharmaceutiques des Etats-Unis, déclarait récemment devant un auditoire, à Montréal, que le mot "profit" était redéfini d'une façon "ridicule." Il soulignait, à la lumière des assauts répétés que subit actuellement le système de libre concurrence de production

et de distribution de l'industrie pharmaceutique, que "des critiques ne comparant que le coût des matières premières au prix des marchandises préparées, emballées et prêtes à être vendues chez les pharmaciens, trouvent que les proportions sont hors de bon sens; ces adversaires du système actuel, dans leurs calculs, qui d'ailleurs ne sont pas justes, appellent profits ou gains cette différence . . . On pourrait donc, en se basant sur cette façon de calculer, dire qu'un réfrigérateur rapporte à son fabricant un profit de plusieurs milles pour cent.

On se sert souvent de cette "redéfinition ridicule," comme le mentionnait le docteur Smith, pour discréditer le monde des affaires et entretenir la fallacité que le mot "profit" est malpropre.

M. Hazen Argue, chef parlementaire du CCF, se plaignait récemment, au cours d'une entrevue à la télévision, du coût élevé des dentiers, en disant que les matières premières utilisées dans la confection de prothèses complètes ne se chiffraient qu'à environ .15. On pourrait dire la même chose d'une montre de fabrication suisse: elle ne vaut que l'acier qui sert à sa fabrication, c.à.d. que quelques sous! Aucune personne sensée ne peut croire que le coût d'un objet peut s'établir, en se servant d'une formule mathématique quelconque et en se basant uniquement sur la valeur des matières premières.

Notre valeur d'homme ne se chiffrerait pas bien haut, s'il fallait ne s'en tenir qu'au calcul du coût des substances chimiques qui servent à constituer notre corps.

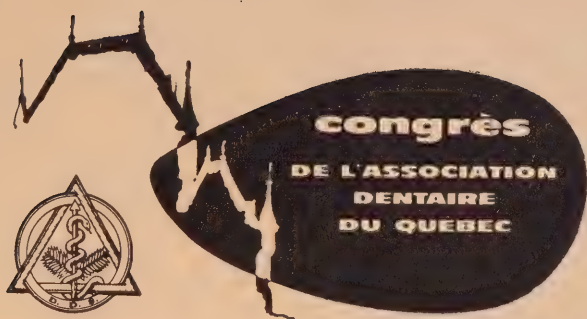
Attribution des primes d'assurance-santé

Selon le Bulletin de l'Assurance-Santé des Etats-Unis, la proportion d'un dollar payé en prime consacré aux bénéfices s'établit comme suit: les compagnies commerciales individuelles versent en bénéfices 53 cents; les assurances-groupes: 77 cents et les plans de santé sans but lucratif: 90 cents.

Carte de crédit

On voit depuis quelque temps au Canada des organisations tenter d'intéresser des individus à des cartes de crédit pour des services dentaires. Cela veut dire que des dentistes seraient priés de signer des contrats par lesquels ils accepteraient un patient possédant telle ou telle carte de crédit. Le Bulletin de l'Association médicale américaine écrit sur cette question: "Ce système et la publicité qui l'accompagne partent d'un mauvais principe et renferment des erreurs de fait et des idées fausses." Les promoteurs d'un plan semblable ont essayé en vain de le faire approuver par l'Association médicale américaine. On a rejeté ce plan, parce qu'on croit qu'un tel système ne sert pas les meilleurs intérêts des patients de la profession médicale.

AU CHÂTEAU FRONTENAC
À QUÉBEC
LES 26, 27 ET 28 MAI 1960



Organisé par la Société de Stomatologie de Québec

Congrès de l'Association dentaire canadienne à Ottawa

les 25, 26, 27, 28, septembre 1960



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Université du Michigan

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Association dentaire canadienne
a/s Bureau du Tourisme et des Congrès
d'Ottawa
70 rue Nicholas
Ottawa, Ontario.

Ottawa, Ontario,
Septembre 25-28, 1960

Frais d'inscription

Seul	\$35.00
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Ces frais comprennent les déjeuners officiels et le banquet du Président.

Faire chèque payable au Comité du Congrès de l'A.D.C. 1960.

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Volume 26
Number 5
Toronto
May 1960

The Canadian Dental Association **JOURNAL**

Some Principles Involved In Partial Denture Designing*

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There have been comparatively few articles on removable partial dentures in recent years, even in journals devoted almost exclusively to prosthodontics. Perhaps no one has anything to say on the subject, everything has already been said or everyone knows everything there is to know on the subject and nothing more need be said.

Much needs to be said about removable partial dentures and much needs to be done about them. All too frequently re-

movable partial dentures are regarded as temporary restorations, "stepping stones to full dentures" as Dr. Steffel phrases it, rather than restorations as permanent as are any other oral restorations. Perhaps once a week we should repeat Dr. M. M. DeVan's statement: "Our objective should be the perpetual preservation of what remains, rather than the meticulous restoration of what is missing."

If then, we are to preserve what remains, partial dentures must be constructed in conformity with principles that are biologically sound and by means of which, supporting tissues remain healthy and

*Presented before the Cape Breton Dental Society
Isle Royale Hotel, Sydney, N.S.—January 16th, 1960.

capable of continuing for some time in their supporting role.

There is much controversy as to how dentures should be supported and in cases where there are no free-end saddles, such as Class III of Kennedy's classification, there is not much problem. Here the denture is principally tooth-born and the stress of mastication is distributed as widely as necessary.

When we are confronted with Class I or Class II cases in which there are one or two free-end saddles, the question of support becomes controversial with one group of prosthodontists being of the opinion that the edentulous areas should bear all the load with the abutment teeth acting only in the role of retention; i.e. bearing the retentive clasps. Stress-breakers of some kind are used to accomplish this. A second group agrees with the idea of not using the remaining teeth for support but does not subscribe to the use of stress-breakers but uses a physiologic base, with loose clasps, effective only as retention. A third group advocates the widest possible distribution of occlusal stresses, using both natural teeth and the edentulous areas to support the restoration.

Some of the factors which are believed to be important in the design and construction of good removable partial dentures should be considered.

First, one must come to a decision as to how removable partial dentures should be supported. The writer subscribes to the school of thought which advocates the widest possible distribution of masticatory stresses, utilizing both natural tooth and soft tissue support. If one follows this plan of treatment, adequate mouth preparation must be made to prepare for occlusal rests, direct retainers, and indirect retainers using various restorative procedures such as the construction of inlays and crowns where required. To determine the need and to give some indication of what may be required in the design, a study cast should be made from an accurate impression and articulated with the opposing cast. This study cast per-

mits us to mark what mouth preparation is required and to mark on it also a tentative design in accordance with the height of contour as described by the cast surveyor. This cast then becomes an excellent guide to follow when the operative procedures are being carried out.

At this point consideration should be given to the use of the surveyor. There are many excellent surveyors available, many of which are expensive, complicated and generally more suitable for a commercial laboratory or teaching institution, but basically they consist of a movable table, on a base, an upright arm, a horizontal arm and a vertical marker parallel to the upright arm and at right angles to the base. Complications and expense set in when varying adjustments to the cast table are incorporated and a simple less-expensive model will perform adequately. An example is the small Roach Designer which is made by Handy & Harmon, the makers of Dee golds. It will do most everything that a large surveyor will do, but perhaps not as easily or conveniently. The price is within the means of everyone and it is well worth its cost.

The principal function of a surveyor is to determine the best path of insertion and having determined this, to mark the height of contour of the abutment teeth and any undercut areas in the soft tissue with which we may be concerned. The degree and position of the infrabulge or undercut areas of the abutment teeth will determine to a large extent the clasp arrangement and design, but one principle should be followed; namely, that the retentive clasps should be as widespread as is feasible. As a general rule, two clasps are all that are required to retain a denture but, it is usually wise to employ more clasps if there are suitable abutments. This helps to distribute the occlusal load by means of the occlusal rests in accordance with our principle of distributing the load over as many abutment teeth as possible. Thus, by distributing the load over 4 abutment teeth rather than two, we reduce by one-half the stress placed upon each abutment tooth.

RETENTION

Retention of a partial denture is the resistance to movement of the partial away from the supporting tissues in a direction opposite to the movement caused by occlusal stress. It is accomplished in several ways depending upon circumstances. In the case of maxillary partials with full palatal coverage by the denture base, some retention is the result of adhesion of the base to the subjacent tissues. This force of adhesion is a factor in all partials to a greater or lesser degree depending upon the extent of the tissue area that is covered by the denture base. The principal method of retention, however, is by means of direct retainers which is the general term that expresses the function of this component of the partial denture and embraces such types as the many kinds of clasps as well as precision attachments of various kinds, in fact any device that is used to retain the partial against the dislodging force. The use of precision attachments is a somewhat controversial subject and only the more conventional type of direct retainers commonly called clasps will be considered although some of them do not in effect do any clasping. For the purpose of discussion it isn't necessary to specify if the clasp is cast or wrought but most clasps today are cast with only a comparatively few of the wrought variety.

CLASP DESIGN

The circumferential or ring type clasp is still the most widely used clasp but more and more emphasis is being placed on the use of the Roach or bar clasp. The advantage of this type of clasp lies in the smaller area of tooth that is covered by it and in being able to use undercuts not usable with the circumferential clasp. Of the various bar clasps possibly the T clasp, Fig. 1, is the most popular, but more and more prosthodontists are advocating the use of the I clasp. The main advantage of this clasp form is the small area covered

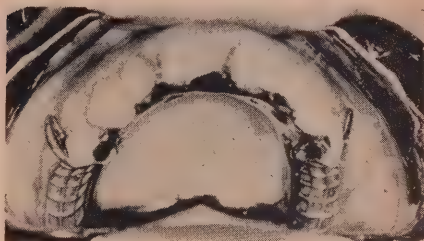


FIGURE 1

Maxillary Class I partial with palatoplate and posterior palatal bar. Retention is by T-bar clasps on first bicuspid

compared with its effectiveness. By use of this form it is possible to utilize undercuts that could not be reached with other types of clasps. Whatever type of clasp form is used, however, one must observe some general principles; one of which states that the minimum of three points of contact must extend over more than 50 percent of the circumference of the clasped tooth. There must be incorporated in a clasp the three component parts, the retentive portion that engages the undercut area of the tooth, the rigid reciprocal arm and the occlusal rest which keeps the whole assemblage in close relation to the tooth. The reciprocal arm is important and the abutment tooth should be so prepared, if necessary, that the reciprocal arm remains in contact with the tooth as long as the retentive arm is in contact. Otherwise, the force of the retentive arm can become an orthodontic force. One should try for the minimum retention in each clasp rather than the maximum and should be certain that clasps are passive when the denture is at rest and not exerting any force upon the tooth until it is necessary to resist dislodgement.

INDIRECT RETAINERS

Indirect retainers are used to prevent movement of saddles away from the sup-

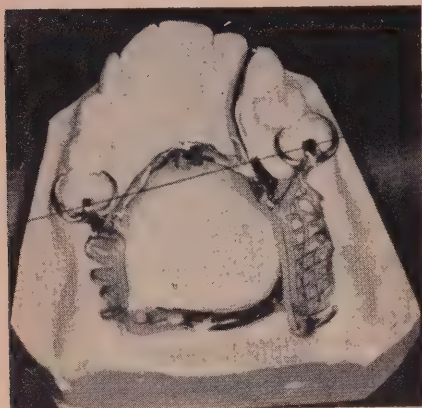


FIGURE 2

Maxillary Class I partial with anterior and posterior palatal bars, circumferential clasps and rests. Transverse line indicates fulcrum line. Embasure hook on left cuspid acts as indirect retainer.

porting tissues and are placed as far as possible on the opposite side of the fulcrum line from the saddle.

The term "fulcrum line" may be unfamiliar to some. It is perhaps best explained as an imaginary line drawn through the occlusal rests of the two principal abutments about which the partial denture tends to rotate, Fig. 2. The function then of the indirect retainer is to prevent that rotation about the fulcrum line. Indirect retainers are of 4 types: the auxiliary occlusal rest, the continuous clasp, also known as Kennedy bar or clasp, the linguoplate or palatoplate and the embasure hook. These different types differ from each other in design, but the function and objective is the same. In addition to preventing movement away from the supporting tissue, indirect retainers such as the continuous clasp or the linguoplate also act as stabilizers against lateral stresses, which makes these two types the more useful whereas the embasure hook is possibly the least efficient and desirable. Each type, however, has its place and good judg-

ment will dictate where that place is. It must be remembered, however, that the efficiency of indirect retainers is only as good as that of the direct retainer, and that they are only effective as long as the direct retainers are maintained in position on the principal abutment teeth. It is worth repeating that the indirect retainer should be placed as far from the fulcrum line as possible and the force which it exerts on the contacting tooth should be as nearly parallel to the long axis of the tooth as possible.

CONNECTORS

The various components of a partial denture must be joined together and this is the function of the connectors. Those that join rests or clasps to the framework are minor connectors and present no particular problem except that they should be placed as inconspicuously as possible, preferably in embrasures, and should be only as bulky as is dictated by the required strength.

MAJOR CONNECTORS

Major connectors are those that join the two sides of the appliance and serve the useful functions of: 1. giving rigidity to the partial, 2. transmitting occlusal forces to the opposite side, 3. counteracting unfavourable leverage by counterleverage and 4. unifying all the parts into a complete whole. One can see that to fulfill these functions the major connector must be completely rigid and for this reason, acrylic is not a suitable material for this purpose. The possible exception is where full palatal coverage is required or desirable, in which case the acrylic base has the necessary rigidity and is in effect the major connector.

Under this heading are lingual bars, linguoplates, palatal bars and palatal plates. The design of these is of great im-

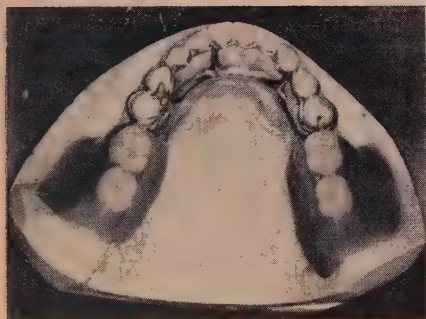


FIGURE 3

Mandibular Class I partial with lingual bar and continuous clasp for indirect retainer. Denture bases are extensive for maximum support.



FIGURE 4

Mandibular Class I partial using linguoplate with incisal rests and circumferential clasps.

portance. Perhaps then it would be best to consider upper and lower connectors separately.

Lower Connectors

For many years it has been almost standard procedure in lower partials to use a lingual bar with or without a continuous clasp or Kennedy clasp and these bars when completely rigid and combined with adequate direct clasp retention have given excellent service, Fig. 3. In recent years, however, more and more linguoplates are being used, which are in effect a lingual bar and continuous clasp with the spaces filled in, Fig. 4. However, the bar portion may be made much lighter, in fact, due to the several planes in which the linguoplate is oriented it may be extremely thin and still be very strong. There are other advantages as well; one of which is that it prevents food impaction which is prevalent with the bar and clasp combination. Another advantage is that two edges are eliminated as well as two or more minor connectors so that a smooth surface is presented to the tongue which adds materially to patient comfort. As no relief is provided over the gingival

mucosa there is intimate contact between the mucosa and the plate so that thermal stimulation results. As the plate is carried up onto the cingula of the anterior teeth, there can be no movement toward the tissue and thus no pressure exerted upon the mucosa. Movement of the posterior saddles toward the tissue results in the movement of the linguoplate away from the tissues so no damage by pressure is possible. The linguoplate combines the functions of a major connector and an indirect retainer, since it resists the movement of free-end saddles away from the tissues. It is coming into wider and wider use and merits your consideration. There are conditions under which it cannot be used, such as when the anterior teeth have a slight linguo-version or when the lingual ridge surface is undercut or even vertical. Good judgment must be exercised in the treatment planning.

Upper Connectors

In the case of the maxillary partial there are several types of major connectors that can be used and in a large proportion of cases the acrylic base functions as

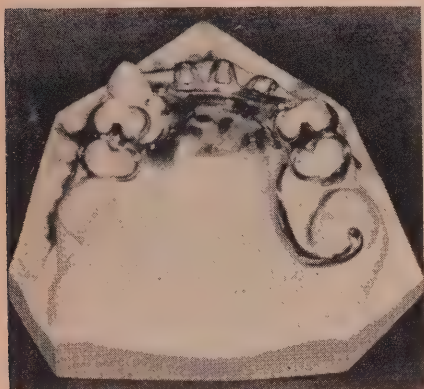


FIGURE 5

Maxillary Class IV partial with palatoplate, circumferential clasps and rests with auxiliary rest on left molar acting as indirect retainer.



FIGURE 6

Maxillary Class III partial. Palatal bars are placed too far anteriorly with pencil lines indicating a better placement.

the major connector thus serving in a dual role. In this circumstance, one must be sure that rigidity is obtained as lack of it diminishes the effectiveness in its other functions. Where full palatal coverage is not required or desirable, cast bars or plates can be used and again more and more palatoplates are being used rather than bars. It depends upon circumstances, of course, but, as in the case of the linguo-plate the palatoplate has some advantages; it can be made much thinner than a palatal bar and in Class IV cases, Fig. 5, particularly the tongue is presented with a smooth continuous surface. Due to the different planes and contours in which it is formed, the plate combines strength with lack of bulk and consequently, lesser weight for the area covered.

If a palatal bar or bars are to be used then it is important that they be placed in the proper place. By far the strongest type of construction is the circular where the anterior and posterior palatal bars result in a more or less circular design. The anterior bar should be kept well up in the palatal arch with the anterior edge tucked in behind the folds of the rugae.

It need not be regular in pattern but can follow the contours of the rugae. One should avoid the area immediately above the upper anterior teeth which Dr. Steffel designates as "the playground of the tongue". Fig. 6.

Posterior palatal bars should be just anterior to the fovea palatinae and posterior to any palatal torus. At no time should a palatal bar cross a torus. If it does it must be kept sufficiently away from the tissue to prevent impingement so it then is in a position to interfere with the tongue. Also it will likely be the only bar and must be made thick or wide or both to obtain sufficient strength and so is a cause of irritation to the tongue particularly on the lateral aspects. One should also avoid a design where a single bar is used across the extreme posterior portion of the palate as the appliance is much too flexible to be efficient. As a general rule, if they are properly placed, no relief is required under palatal bars, in fact they will fit better and prevent food impaction if the edges are slightly beaded on the tissue side. The magnitude of this beading should be in the order of about one half mm.

DENTURE BASES

Finally consideration should be given to the denture base which may be of acrylic or cast metal but in either case the principles concerned are the same.

For the purpose of retention and support the base of whatever design should cover as large an area of tissue as possible. This is particularly true of mandibular free-end saddle cases. A good rule to follow is that our impression should be so moulded and formed that the base can be constructed in the edentulous area as it would be if it were a complete denture case. The polished surface also should be constructed in such a way as to utilize the cheek and tongue as aids in retention.

In cases where anterior teeth are involved, saddles may or may not be used depending upon circumstances. If anterior teeth are abutted to the tissue, care must be taken that tooth and base surface are

highly polished where they contact the tissues in order to avoid irritation.

In conclusion it should be emphasized that removable partial dentures require constant servicing and the denture base should be relined as frequently as necessary in order to maintain the framework in position and the teeth in proper function. If such care is maintained, removable partial dentures can continue to give many years of useful service and help to keep patients happy and healthy.

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Dalhousie University.

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The Salivary Glands — Some Contemporary Problems

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The salivary glands and their secretions have exerted a fascination for morphologists and physiologists alike for centuries. It seems all too obvious that they exist mainly to provide a moistening and lubricating fluid to aid in mastication and deglutition and yet anything beyond a superficial glance shows a mechanism of unexpected complexity. The fact of this complexity is only reluctantly accepted by most workers in this field but any progress in the understanding of the salivary glands must be predicated on this fact. All available evidence shows in the salivary glands an elaboration of physiological process comparable to that of the kidney. In this brief article attention will be directed to a few of the problems receiving attention at the present time.

One of the most interesting developments in the anatomy of the salivary glands has been the realisation that in some species the structure of the salivary glands is very immature at birth. In the rat there are few or no acini present at birth; they appear in the post-natal period as a result of budding from the terminal cells of the ducts¹. The acini do not reach their full development until the rat is 6-8 weeks old. A similar post-natal development of the acini occurs in dogs (Wechsler unpublished). It is remarkable that these very young animals are able to secrete saliva at almost the same rate

as the adult animals although there are differences in composition. For instance, the saliva produced by these immature glands contains a higher concentration of sodium and chloride but is almost free of bicarbonate. The potassium concentration is unchanged throughout development. Such observations tempt one to believe that if water secretion is a property of the salivary ducts in the immature gland, such a propensity may persist after the acini are developed and may be the source of part of the saliva water. In human infants at birth, the salivary glands are apparently histologically mature although evidence of physiological immaturity persists in an abnormally high sodium concentration^{2,3} and reduced amylase activity⁴. Extraordinarily little work has been done on the components of saliva in infants, considering the interest evoked by the abnormal composition supposed to be present in children with cystic fibrosis of the pancreas.

Electron microscopy of the salivary glands has not yielded the rich harvest that might have been hoped for — indeed, there are no specific features so far uncovered which distinguish the salivary cells from those of other secreting cells. Nevertheless, the impact of this new tool is being felt in the changing attitude of cell physiologists. The extraordinary dynamic changes in the plasma membrane and intracellular organelles revealed in the electron microscope make unacceptable hypotheses based on the assumption

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of a static morphology. There has been a revival of interest in the ability of the cell to engulf materials from its surroundings (pinocytosis) and to extrude secretory products as droplets. It will be many years before a satisfactory synthesis of these ideas has occurred.

Since Heidenhaim, it has been commonly accepted that the sympathetic and parasympathetic nerves innervate different structures in the salivary glands. This view was propounded with notable vigour by the late Professor Babkin⁵. Recently, several lines of evidence have been produced which seem to make this view untenable. Hokin and Sherwin⁶ have shown that when slices of guinea pig and rabbit salivary glands are incubated with acetylcholine or adrenaline, a considerable increase in the rate of incorporation of radiophosphorus into the gland phospholipids occurs. A maximal effect produced by either drug cannot be augmented by addition of the other drug. If the two autonomic transmitter agents were acting on different cells, we should expect these effects to be additive. In support of this, Emmelin has found that when a maximal rate of saliva secretion is produced in the cat submaxillary gland by chorda tympani stimulation, simultaneous sympathetic stimulation does not produce any increase in the rate of secretion⁷ — in fact, usually the rate is decreased because of the vasoconstriction that is also produced by the sympathetic stimulation. The very interesting phenomenon of denervation hypersensitivity also lends support⁸. If the chorda is cut, the submaxillary gland develops a hypersensitivity to both acetylcholine and to adrenaline (this latter hypersensitivity being responsible for the paralytic secretion first discovered by Claude Bernard). This is readily explained if the two nerve systems innervate the same cells but not if they innervate different cells. The most decisive evidence, however, has come from the beautiful experiments of Lundberg⁹. He was able to insert capillary microelectrodes into the interior of single cells of the cat submaxillary and sublingual glands and

record the potentials set up on nerve stimulation. In the submaxillary gland, three types of potential were found; two of these were identified as originating in the acinar cells and duct cells respectively, the cell producing the third type remains uncertain. However, in all three cell types, both parasympathetic and sympathetic produced potential changes. In the acinar cells both produced hyperpolarisation, in the duct cells both produced depolarisation and in the unidentified cells the parasympathetic caused hyperpolarisation and the sympathetic, depolarisation. This carries the evidence for a double innervation down to the cellular level. It should not be taken, however, that because all the cells are apparently innervated by both systems that the secretory effects are identical. There is abundant evidence that the composition of chorda and sympathetic salivas differ in a number of important respects. A specific secretory effect of the two neurohumoral transmitters on the activity of individual cells will explain the differences of the secretion and the changes in morphology as satisfactorily as the original proposition of a restriction of activity to some cells may.

Lundberg's studies have revealed an entirely new phenomenon in physiology. The acinar cells are totally inexcitable by electric currents but in response to nerve stimulation develop a most striking hyperpolarisation of up to 40mV. This is quite unlike the hyperpolarisation found in cells in the nervous system and the heart during inhibition and is almost certainly produced by active transport of anions¹⁰. It seems quite likely that it is produced by the active transport of chloride into these cells but what role this plays in the formation of the saliva is at present obscure.

It is now established that the concentrations of the individual electrolytes in the saliva each seem to vary in their own characteristic fashion in response to changes in the rate of saliva secretion. Quite distinctive patterns have been established for sodium, potassium, chlor-

ide, bicarbonate, lithium, phosphate and iodine. Potassium and bicarbonate concentrations are relatively independent of the rate of flow and both are higher than the plasma concentrations; on the other hand, the sodium and chloride concentrations are much below the plasma levels and increase steeply with flow¹¹. At low flows the concentration of these two ions may be no more than 1-2 mEq/L but at high flow rates exceed 50 mEq/L. Iodide is well known to be concentrated in human parotid saliva to 10-200 times the plasma concentration (as are thiocyanate and perchlorate which can competitively depress iodide secretion).¹²

Presumably when more ions have been investigated in detail, these, too, will be found to behave in their own individual ways. Further, as mentioned above, the concentrations of some ions in the saliva are altered when the sympathetic innervation is active. This is particularly the case with potassium and calcium. Because of these variations, the composition of resting or stimulated mixed saliva collected without definition of the exact rate of secretion is not likely to be of much value; under these circumstances attempts to show changes in disease (for instance, in fibrocystic disease of the pancreas) or as a result of medication (for instance, adrenocortical hormones) will only succeed if the changes presented are gross. It is so simple to obtain single gland secretions at controlled rates in man by the use of suction capsules or catheterisation of the ducts with polyethylene tubing that there can be little excuse for continuing to collect mixed saliva for research.

It is not perhaps generally realised how very little is known of the secretory processes in any gland and it is only in the last few years that the application of modern ideas of cellular physiology has led to some progress. For instance, it has been shown that when a salivary gland is equilibrated with radioactive urea and then perfused with non-radioactive urea, the urea secreted in the saliva is always considerably less radioactive than the urea contained in the gland¹³. This can

only occur if the radioactive urea secreted by the acini is diluted by non-radioactive urea crossing the ducts as the saliva passes through them. By analysis of this kind of experiment, it has been shown that normally about two-thirds of the salivary urea enters the saliva through the ducts and only about one-third through the acini. Experiments with other substances have shown that these also are secreted in part by the ducts. In the case of iodide it seems probable that secretion occurs exclusively through the ducts. With the finding that substances were secreted through the ducts, it became of some interest to find out if there were specific locations in the ducts that transmitted individual substances. This has been studied by the application of the following principle¹⁴. If a substance is secreted only by the acini, then, after secretion, it must travel down the ducts before it can appear in the saliva. Since the duct volume is of the order of 5-10% of the gland volume, when the gland is secreting at a rate of 0.25 ml/gm.min. the newly secreted saliva will take about 20 seconds to reach the exterior. On the other hand, if the substance can enter the saliva directly through the ducts, it will be taking a short cut, so to speak, and hence can appear in the saliva in a shorter time. The more distally in the ducts the substance is permitted to cross, the earlier it will appear in the saliva. Experimentally this idea can be tested if, while the salivary gland is secreting, the radioisotope of the substance we are interested in is injected into the artery going to the gland and small successive samples of saliva are then collected. By this method it has been shown that many substances can cross the salivary ducts but they do not all cross in the same place¹⁵. Water is able to enter the saliva very far distally, probably even across the smaller interlobular ducts; a little more proximally the anions chloride, bromide and bicarbonate enter together, a little more proximally still, sodium and potassium, then iodide and, finally, most proximally of all the substances so far studied, urea. This substance

we have previously mentioned as crossing the ducts.

The salivary ducts seem, therefore, to be very specialized and are far more complex in their physiological function than we had imagined — this is all the more surprising since the duct histology gives no indication of these properties. One of the most interesting aspects of this study is the finding that a distal part of the duct is permeable to anions but not to cations. Since cations cannot enter, the only way that anions can enter is by exchange with other anions that are leaving the saliva. Since chloride and bicarbonate enter at the same spot, this suggests the presence of a process involving exchange transfer of these two ions. Evidence to support this has come from another new discovery¹⁶. The concentration of bicarbonate in the saliva depends not only on the bicarbonate concentration in the plasma but also on the $p\text{CO}_2$ of the blood — a high $p\text{CO}_2$ raises the saliva bicarbonate presumably because it facilitates bicarbonate entry from the blood. When the bicarbonate rises in the saliva the chloride falls by an equivalent amount. This could readily be explained if bicarbonate were secreted into the saliva by the cells of the distal salivary ducts in exchange for chloride from the saliva.

In this article I have necessarily had to select some contemporary work that particularly appeals to me from the very considerable body of sound work in progress at the present time; it is enough to indicate the activity in the field and that it will indeed be a long time before

our knowledge of saliva, its functions and production are anything like complete.

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McGill University

"All that is necessary for the forces of evil to win in the world is for enough good men to do nothing."

— Edmund Burke

The Night Guard

F. C. LACKIE, D.D.S., Toronto, Ontario.

In July of 1955, Moore¹ of Hamilton addressed the Tennessee State Dental Association at their 13th Annual Seminar. He states the following: "Over fifty per cent of the author's patients who have periodontal disease, clench or grind their teeth either during the day or night, or both day and night. Robert L. Parrish, head of the Department of Periodontics at the University of Tennessee also stated in personal conversation that the prevalence of the habit is extremely high amongst the patients he sees." While this statement may be startling to some readers, it concurs with the clinical experience of this author. It should be noted that while bruxism generally occurs in adult patients, some children are similarly affected.

Sorrin³ has classified habits, which are important factors in the initiation and progress of periodontal disease in this manner:

- (a) Neuroses
 - (i) Lip and cheek biting
 - (ii) Toothpick biting
 - (iii) Fingernail biting
 - (iv) Pen and pencil biting
 - (v) Occlusal Neuroses
- (b) Occupational
 - (i) Holding of nails in the mouth
 - (ii) Thread biting
 - (iii) Pressure of the reed of certain musical instruments
- (c) Miscellaneous
 - (i) Pipe and cigarette smoking

- (ii) Tobacco chewing
- (iii) Faulty tooth brushing
- (iv) Mouth breathing
- (v) Thumb sucking

Orban² defines bruxism as grinding, gritting, or clamping the teeth. It occurs consciously or unconsciously during the day, which is termed "bruxomania" or unconsciously during the night, called "bruxism".

The exact cause is unknown. Most authorities, however, feel that it falls in Sorrin's first group under occlusal neuroses — and that it has a psychological background. Nadler⁵ writing in the J.A.D.A. 1957 (54:615) in an article entitled "Bruxism, A Classification: Critical Review" states: "Emotional tension, frustration and deep seated aggression are considered to be the etiological background for these habits". Unquestionably psychiatric treatment will alleviate many of these problems. This, of course, is beyond the scope of this paper. It is stressed, merely to show the reader, that our treatment as dentists, is treating a symptom and not the cause.

The habits in this group must be considered as perversions of occlusal function. It is the aggressive, repetitive grinding or gritting which is the damaging factor to the periodontium. Except for contact of the teeth during mastication or swallowing, the mandible should be at physiologic rest. These rest periods allow tissue damage to be repaired. It is the

absence of these normally occurring rest periods which prevents periodontal tissue repair, because of continuous occlusal pressure.

Glickman⁴ in his book, "Clinical Periodontology", says that occlusal neuroses are causative agents for deleterious effects on the dentition. He believes that wear of the teeth, thickening of the periodontal membrane and tooth mobility may be the result of occlusal neuroses.

The wearing of the teeth is characterized by pronounced facets, widening of the occlusal surfaces (with all the damaging sequelae) and in severe cases reduction in the vertical height.

Bruxism often leads to injury of the periodontal tissues and resultant tooth mobility, particularly when there is a malalignment of the teeth or a functional prematurity. We must, however, recognize the fact that frequently patients with bruxism often present a thickened periodontal membrane and an increase in the density of the alveolar bone, which represents a favorable response to the increased functional demand.

Clamping or clenching and tapping habits which concentrate on isolated teeth or sections of the arch are more likely to be injurious than the over-all grinding entailed in bruxism:

Bruxism is accomplished in two and possibly three, different ways:

(a) Clamping or clenching — This is a continued, intermittent or pulsating pressure in the molar and upper anterior regions, with the teeth in centric, lateral or protrusive. This form is accompanied by chronic muscle spasms and a burning sensation in the neck⁶.

(b) Rocking the teeth⁷ — in reality this is a clamping or clenching habit. It is, however, such a pernicious habit that it deserves special recognition. The patient clenches his teeth and with a combined vertical and lateral pressure rocks his teeth buccally and lingually.

(c) Clicking, tapping or rubbing the teeth together, in other than the normal lateral or protrusive ranges. The areas affected here are isolated or unusual points

of contact on individual teeth or small groups of teeth or an isolated mobile tooth.

The clinical examination will reveal some of the following symptoms.

(a) History

(i) The patients are usually unaware of the existence of the habit, but may complain of soreness or tired feeling in the jaws and muscles of mastication, particularly upon arising in the morning (also a burning sensation in the neck).

(ii) Occasionally the mates of these patients complain of hearing grinding noises in the night.

(iii) Suspect patients who have a history of gastric or duodenal ulcers, colitis — clenching during pain spasms.

(iv) Nervous disorders which contribute to difficulty in sleeping, gagging readily, and other diseases which have tension as an underlying aetiological factor.

(b) Extra-Oral

(i) Patients with well-developed muscles of mastication should always be suspected of bruxism — watch for contraction of the masseter or temporalis muscles during conversation in taking your history.

(ii) Rigid-type jaw muscles, which make it difficult to retract the cheeks.

(iii) Tempero-mandibular joint disturbances.

(c) Intra-Oral

(i) McCall's festoons at the gingival margins of the teeth. (This is open to question as occasionally functionless teeth present these pathognomic findings.)⁷

(ii) Worn facets on areas of the teeth that do not touch during normal chewing excursions.

(iii) Recessions.

(iv) Sensitive root surfaces.

(v) Teeth that are hyper-sensitive to vitality tests where there are no cavities or fillings present.

(vi) Pain within the alveolar processes.

(vii) Loss of alveolar bone around the teeth.

(a) Adults — Check especially around the second molars. Bone loss in this area is usually interpreted as caused by premature contact from an adopted centric, interference in the balancing bite, or more commonly clenching of the teeth.

(b) Children — Bone destruction usually occurs around the permanent incisors and first permanent molars.

(viii) Mobile teeth — especially luxation of the teeth bucco-lingually under grinding pressure.

In treating these symptoms, the author has adopted the ensuing philosophy. Primarily the relief of pain by eliminating muscle spasm and protection of hypersensitive teeth should be foremost. Next he wants to protect the tissues of the periodontium — this would include stabilization, where possible, of the mobile teeth. Finally, it is necessary to eliminate further wear of the occlusal surfaces of the teeth and to prevent the cusp to fossa relationship of the maxillary and mandibular dentition.

Clinically the night guard has accomplished these aims of treatment. It eliminates a number of triggering pain stimuli. By tying together the teeth of one arch it partially eliminates buccolingual and mesio-distal tooth movement. (Because this is a removable appliance there will always be some movement of the teeth.) When a flat occlusal surface is prescribed, a relatively favorable occlusal relationship is established. It is much easier to manage the ideal relationship between two antagonists than between thirty-two. Finally the patient is unable to grind, clench, tap or rock during the night.

Occasionally the correction of occlusal disharmony is dramatically successful. Therefore before proceeding with impressions for a night guard, an occlusal equilibration should be performed — such factors as functional prematurities, plunger cusps, projecting maxillary and mandibular cusps, beyond the occlusal plane, should be corrected at this operation.

The procedures listed below for the fabrication of this appliance are simple, economical in chair time and laboratory costs. Clinically, both method and finished appliance are reasonably efficient.

APPOINTMENT I

Take alginate or hydrocolloid impressions of both maxillary and mandibular arches. Record centric in wax.

LABORATORY PROCEDURE PRIOR TO APPOINTMENT II

- (a) Pour models and mount on an articulator.
- (b) Adapt base-plate wax to the upper model. (The author prefers a full palate to give strength to the finished appliance. This also eliminates a tongue problem.)
- (c) Trim your wax so that it covers the buccal and labial occlusal and incisal thirds of the teeth.
- (d) Use a metal template — 20°. This is held against the model to show the discrepancies. Remember, you are trying to create an ideal occlusal relationship with the lower teeth.
- (e) Fill in the discrepancies with wax. Fig. 1.

APPOINTMENT II

Try-in of wax form.

- (a) Patient in centric.
- (b) Protrusion.
- (c) Right and left lateral.

A roll of wax is created both lingually and buccally. Trim this flush with the width of the occlusal table you desire.

(d) Smooth occlusal surface with a warm spatula.

Have laboratory fabricate in acrylic. Fig. 2A, 2B.



FIGURE 1

NIGHT GUARD — (Wax-up)
 Note — full palate
 — flat occlusal surface
 — extension on to buccal and labial
 covering only occlusal and incisal thirds

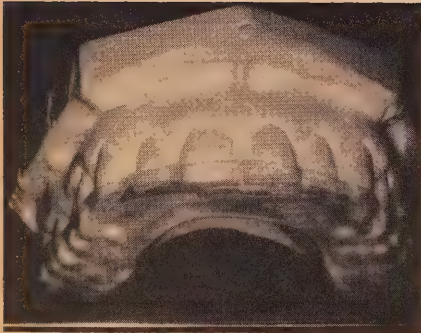


FIGURE 2A

NIGHT GUARD
 Inverted upper model
 (i) Flat occlusal plane
 (ii) Full palate
 (iii) Finished on labial and buccal as pre-
 scribed in the wax-up

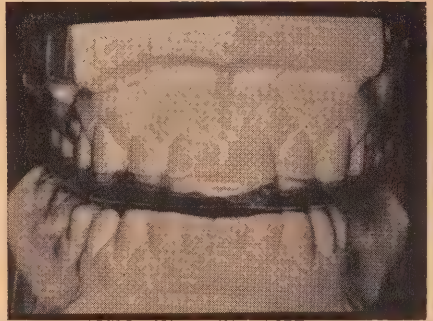


FIGURE 2B

CLEAR ACRYLIC
 Upper model with night guard inserted,
 occluding against the lower arch
 All the lower teeth are occluding with the flat
 plane.

APPOINTMENT III

Finish case in the mouth.

- (a) Do not increase the vertical dimension, any more than is absolutely necessary. This appliance is not meant to open the bite.
- (b) The finished case should go to place easily.

RECALL VISITS

At these appointments, the night splint should accompany the patient. Check for necessary adjustments — if necessary (i) Record centric — use holding stops. (ii) If essential — cut out the occlusal surface, lubricate the teeth. Then fill in with fast-cure acrylic.

MISCELLANEOUS POINTS TO OBSERVE

- (a) Missing Teeth — Block in these edentulous areas with wax as in a bite rim. If these areas are not balanced, the finished appliance will rock.
- (b) Usually an upper splint is all that is necessary. This eliminates the tongue problem, referred to above.

- (c) When there is a gross discrepancy, construct both an upper and lower splint.

CONCLUSIONS:

The prevalence of periodontal disease is of such significance, that it presents an almost monumental task to the profession. This paper is offered with no intent of adding to the knowledge of the disease, for the author freely admits that there is nothing of originality in the presentation. Rather it is presented with the sincere hope that more interest in the broad field of periodontics will be taken by the readers.

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You may bury the bones of men and later dig them up to find they have mouldered into a thin white ash that crumbles in your fingers. But their ideas won. Their visions came through. Men and women who gave all they had and wished they had more to give—how can we say are sunk and buried? They live in the sense that their dream is on the faces of living men and women today . . . They go on, their faces here now, their lessons worth our seeing. They ought not to be forgotten — the dead who held in their clenched hands that which became the heritage of us, the living.

—Carl Sandburg.

Peripheral Granuloma of Internal Resorption

NATHANIEL H. ROWE, B.S., D.D.S., M.S.D.*, *St. Louis, Missouri.*

INTRODUCTION

While internal resorption of teeth is not an extremely rare condition this case represents an interesting diagnostic problem. The clinical appearance of the superficial lesion is quite similar to that of certain inflammatory and neoplastic epulides of the gingiva.

REVIEW OF THE LITERATURE

Mummery¹ described internal resorption as "pink spot" because the color of the pulp showed through the thinning labial plate of enamel. In a later publication he called it "perforating hyperplasia of the pulp."² While the etiology of this odontolytic defect is not above controversy many investigators believe a rich vascular supply in the area of resorption plays a definite role in its occurrence³. It is now generally agreed that resorption may occur either on the external surface of the tooth or on the pulpal wall or on both surfaces simultaneously.

Ideopathic resorption has been reported in both the deciduous⁴ and the permanent dentition⁵. A tabulation of the existing literature indicates the process may occur at any age and affects males slightly more

often than females. With the paucity of published cases the frequency of the disease is difficult to ascertain. Thoma⁶ cites its occurrence as one in one thousand. Schwitzer⁷ finds it more prevalent, giving the figure of four in 2100. Stafne and Slocum⁸ in reviewing a relatively large number of ideopathic resorption cases from the Mayo Clinic found the central incisor teeth of both the maxilla and mandible to be involved equally and to exceed all other teeth in the frequency of involvement. The right maxillary central incisor was involved most often in the cases reported by Bernier⁹ from the Armed Forces Institute of Pathology.

Involvement of more than one tooth within the same mouth has been noted by several clinicians. Bilateral involvement of the central incisors is noted in the early literature¹⁰. Some early investigators believed the resorptive process to be of a systemic nature and often attempted systemic therapy, "cures" being reported^{10,11}. Stafne and Slocum⁸ evaluated the frequency of systemic disorders in their large sample and compared them with general clinic patients, finding no significant difference between these two populations.

If therapeutic intervention does not take place the resorption process usually resolves itself in one of two ways. Either the tooth becomes so hollowed out that masticatory stress causes its collapse⁹ or the odontolytic defect becomes filled in with bone¹².

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CASE REPORT

A 38-year-old white female was seen on January 25, 1957, for a routine dental checkup. The oral examination presented nothing unusual except for a small tumorous mass which appeared to be attached to the free labial gingiva of the maxillary right central incisor. The mass was 2 mm. in diameter and resembled the normal gingiva in color and consistency. It caused no discomfort to the patient except from an esthetic standpoint. The tooth was free from caries and periodontal disease and was serving as an abutment for a four tooth bridge. Roentgenographic examination revealed an irregular enlargement of the pulp chamber with no apparent periapical pathology (Figure 1). Blunt dissection demonstrated that the lesion was in no way connected with the gingiva but continuous in its deep aspect with the pulp tissue within the tooth. The superficial mass was excised for histologic examination.

Microscopic examination revealed the

mass to consist of a moderately cellular fibrous connective tissue stroma containing a minimal number of chronic inflammatory cells. Small vascular channels were evenly distributed throughout the mass. The surface was covered with stratified squamous epithelium which showed slight elongation of the rete pegs.

The patient was seen again on March 6, 1957, at which time the mass was found to have recurred (Figure 2). It was removed along with the contents of the pulp chamber and root canal. The odontolytic defect created by the resorptive process was then easily visualized (Figure 3). Conventional endodontic methods were employed and the tooth retained within the masticatory apparatus. Follow-up revealed the tooth symptom free after two and one-half years.

DISCUSSION

Epulides of the gingiva constitute a group of lesions having a common clinical appearance. Despite this common appear-



FIGURE 1

Roentgenograph exhibiting irregular area of radiolucency.

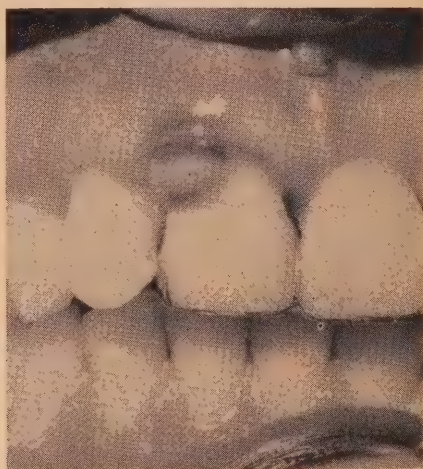


FIGURE 2

Peripheral granuloma of internal resorption.



FIGURE 3

Odontolytic defect shows involvement of dentin, cementum and enamel.

ance the gingival epulis represents a group of lesions whose etiology and prognosis vary markedly. This case illustrates epulis formation from an uncommon source, the dental pulp. The clinical course and therapeutic management of this lesion differ from any other epulis of the gingiva.

Two diagnostic aids are useful in determining the true nature of the lesion. The roentgenograph and biopsy of the gingival epulis. A roentgenograph of the affected tooth will show an enlarged, irregularly shaped pulp chamber and/or root canal. Granulation tissue covered with stratified squamous epithelium will be found upon histopathologic examination of the biopsy specimen. A sense of urgency should accompany the efforts to establish a diagnosis since prolonged waiting allows the resorptive process to continue until the loss of the tooth is inevitable.

Testing for pulp vitality will not directly contribute to the diagnosis. Teeth affected with internal resorption may or may not test vital. A positive response to electrothermal stimulation may be expected in the majority of cases but in some

cases no response will be experienced.

It is interesting to note that with few exceptions the pulpal tissue composing the epulis itself is insensitive or only slightly sensitive. Pain is rarely a symptom in these lesions.

Case management necessitates evaluation of several factors. In cases where the lesion originates on the external surface of the tooth, or in cases where the internal condition is advanced to the point where structural stability of the tooth is threatened, extraction of the affected tooth may be the only successful therapy. In cases of resorption originating within the pulp chamber or the root canal endodontics offers an approach which as well as being conservative, offers the patient an opportunity to retain the natural tooth.

SUMMARY

A case has been presented illustrating the necessity of accurate diagnosis of gingival epulides. The role of a biopsy in the identification of the lesion is emphasized. The endodontic approach is described as a possible course of therapy for internal resorption.

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Washington University

University of Manitoba — Convocation Address*

DEAN HARRY LYONS**, *Richmond, Virginia.*

With the greatest pleasure the Journal of the Canadian Dental Association records the Convention address of Dean Harry Lyons commemorating the official opening of the Faculty of Dentistry, University of Manitoba. This penetrating and sagacious message should long remain as an inspiration to the members of this new Dental Faculty.

This is, indeed, a privileged occasion for me — one that affords me distinguishing honor.

I acknowledge with deepest gratitude the honorary degree of Doctor of Laws which the University of Manitoba has conferred upon me. At moments such as this, one experiences a tempering reaction wherein gratitude reacts with humility, possibly catalyzed by just a touch of pride which I hope may be pardonable. I am mindful not only of the great honor inherent in this degree but also of the responsibility which is related to it. I am aware that the recipient of such an honor must continue to merit it day by day as long as he may be privileged to live and labor. I assure you that I shall always remain sensitive to this trust.

The dedication of a new dental school building is a most important event in the life of a university. It is also noteworthy

in the development of a country in relation to education and the health of its citizens.

The establishment of a dental school by the University of Manitoba and the planning and construction of this building are the culminating fruits of the labor of many people who dedicated themselves to this effort. I am sure that the members of your University family have looked forward to this moment for months and years. During this time there were probably moments of great elation and also hours of despair. It requires great courage to undertake a project of this magnitude in the face of the many obstacles which routinely occur. I suspect that those engaged in this important assignment may have found a sustaining force in such thoughts as those which Ruskin reduced to his immortal lines: "When we build, let us think we build forever. Let it not be for present delight, nor for present use alone. Let it be such work that our descendants shall thank us for, and let us think as we lay stone on stone that a time is to come when those stones shall be held sacred because our hands have touched them. And men shall say as they look on the labor and wrought substance of them, 'See, this our fathers did'."

This structure is more than a building of bricks and mortar. It is also a symbol of a health service profession, rich in its history and attainments in the fields of education, research and practice. At this moment there is a great temptation to delve into the history of dental education, research and practice in Canada and the

*Presented at the University of Manitoba, March 18, 1960.

**Dean, Medical College of Virginia, School of Dentistry, Richmond, Virginia.



Administration Entrance to Dental School

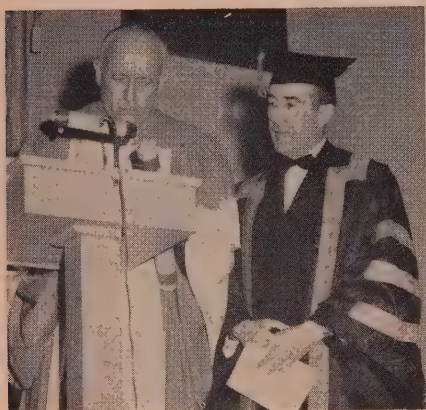
world at large. I shall resist this temptation and state simply that the history and the heritage of dental education are a challenge for the future which this school, I am sure, will accept in full measure.

This building and your faculty will serve as a repository of all that is worthy in dental science. In the lecture rooms, the laboratories, and the clinics of this new building your faculty will teach not only the best and the newest knowledge and technics but also a professional idealism characteristic of the dedicated health servant. Your students will be recipients not only of an educational discipline in dentistry scaled to the needs and practices of the present but a discipline which will

also condition them for the changing needs and practices of the future.

From this building there must issue forth not only the knowledge now available but also new facts and new technics yet to be developed through research carried on within your laboratories. Without the latter a school cannot remain a moving source in education. Furthermore, you students should leave your corridors with the determination that the democratic way of life with special reference to health care characteristic of Canada shall not perish.

The problems of dental education, dental research and dental practice in Canada and the United States are essentially identical. Our professions are joined by



Dean Harry Lyons, the principal speaker at the Convocation, signs the register as Mr. Justice Samuel Freedman, Chancellor of the University of Manitoba, watches.

common bonds of similar objectives. Dental education in Canada and the United States are inseparably bound by a number of factors. Our national accrediting agencies practice accreditation by reciprocity. Faculties of dental schools in both of our countries are joined in a single organization, The American Association of Dental Schools. In very recent years the dean of a Canadian school served with great distinction as president of this organization. Faculty members of Canadian dental schools continue to contribute importantly to the programs of The American Association of Dental Schools. The dental faculty of the University of Manitoba will surely occupy an honored place in the ranks of this Association.

Dental schools and dental education give birth to dental practice, providing its practitioners in a creative way. Dental schools are the well-springs for much of our research, discovering new truths and developing finer technics. Without the continued productivity of dental schools the dental profession would, of course, wither and disintegrate. Practitioners can never es-



From left to right: Dr. Harry Lyons, Richmond, Virginia; Dr. H. E. Bulyea, Edmonton, Alberta, and Dr. H. J. Merkeley, Winnipeg, Manitoba.

cape from the shadow which the stature of dental schools may cast. They should not wish to do so. On the contrary, every practitioner should have an ambition and should participate in efforts to elevate the stature of dental education and dental schools, and subsequently bask in the glory of its longer shadow casting a protective arm over our profession and our people. It is, therefore, incumbent more on the dentists of this province than on other citizens to support dental education in general and this dental school in particular. The reputation of the profession in Manitoba will in the future be closely related to the reputation of this school.

It appears appropriate that we speculate at this time on the future of dentistry and dental education. The future of dentistry rests on a number of important factors. We must, first, recognize that our profession in Canada, the United States and many other countries has a franchise. Our franchise was granted to us by the people through appropriate legislative channels. In this connection we should never lose sight of the political axiom that what the people give they may also take away. This is our basic challenge. Our franchise carries with it both privileges and responsibilities. We must meet our responsibilities in order to continue to enjoy the privileges of a health service profession.

Our profession has the responsibility ultimately of providing dental health care to our entire population, rich and poor, within the limits of their ability to pay. For those unfortunates unable to pay for dental care our profession in Canada and in the United States has, at least, the responsibility for providing plans by which the worthy and the needy may receive the benefits of health care. Financial assistance from other sources may be necessary to implement these programs but the responsibility for designing and operating them should be recognized as a part of our responsibility under our franchise. If we abdicate this responsibility and permit others to develop and implement plans we may find the proposals of others unacceptable to us in terms of good professional standards and the best interest of the people whom we are dedicated to serve.

The demand for dental care is destined to increase at very rapid rates in both the immediate and distant future. This trend is based on several factors: the increasing population, better levels of education and improvement in the economic status of many of our people. These factors add to the magnitude and the significance of our professional responsibilities. Toward these responsibilities dental education and this school which we are dedicating today have important roles to play. Dental schools must educate the professional personnel necessary to meet the public's demand and need for dental care.

Because the need for dental care exceeds the limits of our ability to supply and because the need and the demand may soon be one and the same it is of utmost importance, among other things, that our profession engage in research seeking discoveries in the field of the prevention of dental diseases. Public water fluoridation is an example. Many more important discoveries should be sought in the realm of prevention of other dental disease categories. Because of the relationships of research and teaching, one supplying vitalizing forces for the other, we must look to dental schools such

as yours at the University of Manitoba for leadership in research as well as in education.

This convocation marking the dedication of a new dental school building offers a timely opportunity to equate education and health within the broad realm of social and political philosophy.

People enjoying the socio-political benefits of a democratic society and government recognize the importance of education. In relationship to a democracy or representative republic a literate and an enlightened population is deemed to be of primary importance. It has been said that for a democracy or a representative republic to be successful the populace must include at least one more wise man than fool. Educated people are essential to our forms of government not only in relation to the wise use of the ballot but also in order that we may be strong culturally, economically, industrially and in realms of the general and health sciences, military skills, space explorations, and others. To attain these objectives the basic education of our children is compulsory in the United States and financially supported by government. It may, however, be secured on a private basis financed by the individual or the family if desired. Democratic peoples created and support this policy of compulsory education as a fundamental one related to their survival.

What may we say of the health of people in our society and in our forms of government? Is it less important than education, or does it have value equal to education?

To receive or acquire and utilize an education one must enjoy a good measure of health. Does not a longer, useful life add to the value of an investment in education?

How may we equate the health status of people with the industrial and military strength of their nation? What benefit is there to a nation with large industrial plants and military stores if its population is disease ridden and heavily decimated by unsolved illnesses?

Is not health essential to industrial pros-



Hon. George Johnson, Manitoba's Health Minister, cutting the official ribbon to formally open the Dental School. Dr. Hugh H. Saunderson, President of the University of Manitoba assists.

perity and national defense? Even in this era of modern weapons the number of physically fit men that a nation can employ in industry and put in uniform may well determine the quality of national defense and, in fact, whether or not the nation may survive. Many examples of this may be cited; one pertaining to dental health may be related with interest at this moment. During World War II the United States utilized the military draft to man its military enterprises. Our survival as a nation depended in great measure on the availability of physically fit men in numbers sufficient to meet military requirements. Of great interest in this connection is, first, the large number of young men in the United States who were determined physically unfit to defend their country and, second, almost half of these were rejected because of physical deformities due to the ravages of dental disease. Toward the end of the war, even the amazingly low dental requirement of three upper teeth touching three lower teeth was abandoned and young men totally toothless were utilized for military duty. Many dental deformities are due to personal neglect and may be prevented by proper treatment and personal care.

If national survival and prosperity rest to important degrees on both education and health and if it is deemed essential in these interests to make a modicum of education compulsory does it not follow that a comparable measure of health be exacted of citizens — by voluntary action if possible, by compulsion if necessary?

This is not a new concept. We have laws which declare the destruction of lives — your own or that of others — punishable crimes. There are laws which establish measures to insure citizens against the prevalence and spread of certain diseases. These laws provide for regulations of a compulsory nature. The population is compelled to submit, for example, to preventive medication for protection of health against such hazards as smallpox — on a private basis if desired or at government expense if necessary.

It would appear logical to extend the protection and the promotion of health a step further by voluntary action preferably, by compulsion and government support if necessary. The latter may be necessary if the former fails because of our deficiencies in the realm of health education.

The dental profession and the other



Main Clinic — To accommodate 60 students.

health service professions face an interesting challenge in this connection. We should, as a part of our professional responsibility, educate the citizens of our countries to the value of health care and activate them to seek it in their own interest and for their nation's welfare. Failing this we face the likelihood of losing status and our basic franchise.

The University of Manitoba Dental School will recognize this challenge. Its faculty and graduates will react to it with vigor and intelligence. Two aspects of such intelligent reaction are (1) the development of a program to provide adequate professional personnel oriented to the problem and (2) vigorous promotions of research seeking the causes, prevention and cure of all the dental diseases. Many diseases of man may now be prevented or controlled. We must utilize, to the fullest, the knowledge which makes this possible. In addition, spearheaded by great institutions of learning, research should be promoted to bring all diseases within the categories of preventive or curable disorders.

Fortunate, indeed, are the people of Manitoba, Canada, and the world that this great University has extended its horizon of usefulness by the establishment of its

Dental School. History will record this date of dedication as an important one in the health education and the welfare of people whose contributions to world society have always been significant.

In joining you for the dedication of this new dental building I do so with the highest compliments and commendations that one may offer to the administrators and faculty. This school with the vigor of youth and the mature judgment of its faculty must lead dental education and practice to heights not yet conceived or explored. In the space age dentistry has its own unexplored space. The University of Manitoba Dental School will surely be among the first to extend the horizon of knowledge and service into the great blue yonder.

In the years ahead when your descendants shall weigh your efforts, appraise your educational and research programs, evaluate your contributions to the welfare of mankind, when—in Ruskin's words—they shall "look upon your labors and wrought substance of them," they will say with gratitude and pride, "See, this our fathers did."

Fire

Editor's Note:

The following item was submitted by Dr. B. M. Jackson of Kitchener in co-operation with the five dentists involved in the catastrophe, for the sole purpose of preparing all practitioners against such emergencies.

On December 16th, 1959, at 4.15 p.m. a fire was discovered in the basement of a store in the centre of downtown Kitchener. Before the fire could be brought under control several hours later, three large buildings had been destroyed with a loss of over \$1,500,000.00. Among the thirty-five businesses and offices destroyed were those of five dentists. With the co-operation of these dentists this article has been written to summarize the results of this disaster in so far as they were concerned. It is hoped that the conclusions that may be drawn from it may be of assistance to other members of the profession.

The five dentists involved suffered to all intents and purposes, a total loss. Some were fortunate enough to save part of their current records. One man had his records in a fireproof safe, another's son was able to get in during the fire and remove the records, and in the case of a third some heavy material collapsed over the records, protecting them. All older records and histories as well as x-rays were lost.

The heaviest loss was in equipment and supplies. Although some smaller instruments were recovered following the fire, by far the greatest part of the equipment was destroyed. This loss, unfortunately, could only be calculated approximately

as only one of the dentists had an inventory list. They therefore had to rely largely on memory. As nearly as could be reckoned, however, the total losses of the five men concerned were \$48,000.00 or an average of \$9,600.00. In estimating cost, it must also be remembered that replacement costs are always much higher than the depreciated value of equipment. Lost time was also a very important factor in calculating loss. Two of the dentists suffered little loss in this respect since they were able to move in with other dentists and use their second operating room. The other three dentists were not able to resume practice until they had secured suitable office space, made necessary alterations, and installed new equipment. This entailed a loss of productive time varying from ten to twelve weeks. In this connection it should be noted that the dental supply companies were most co-operative. Representatives were in Kitchener the morning after the fire and assisted the dentists in making up inventories for insurance purposes. They subsequently did their best in obtaining and installing equipment with as little delay as possible.

The most noticeable feature resulting from the losses was the low insurance coverage of all the dentists concerned. One man had unfortunately just dropped his coverage to \$2,000 six weeks prior to the fire. The others carried insurance ranging from \$3,000.00 to \$6,000.00 with an average coverage of \$3,900.00. This amount, in comparison with the average estimated loss was obviously much too low. In addition none of the dentists was protected by business interruption insurance which would have reimbursed them

for expenses of a continuing nature, such as salaries, interest on loans and loss of profit while they were unable to practice.

It is quite obvious from the above that all of the dentists involved in this fire were most inadequately prepared for anything in the nature of a total loss. The exact loss on depreciated values and lost income suffered by each dentist cannot accurately be determined but could conservatively be estimated at not less than \$11,500.00 on the average. This does not include the difference between replacement and depreciated values. To apply against this there was only the \$3,900.00 average insurance coverage. In addition to this, there is the loss of records which can never be replaced. On the basis of this experience it would seem advisable for all members of the profession to re-evaluate their own situation, taking into consideration the following suggestions.

1. Inventory: A complete inventory should be made of each room and all contents, and brought up to date each year. One copy should be kept at home, or in a safe deposit box; a second copy might be left with the insurance agent.

2. Fire Insurance: Coverage should be based on the inventory total. Your policy will likely require that the value of the policy be at least 80% of the depreciated value. This should cover not only equipment but such items as library, stock, furniture and other items.

3. Business interruption insurance: Such insurance is fairly inexpensive and will cover lost income during the time that is required to become re-established.

4. Fireproof storage: Fireproof safes and filing cabinets are a wise precaution to avoid the loss of irreplaceable records.

Bruce M. Jackson, D.D.S.

EDITORIAL

Facts for the Future

When questions are asked pertaining to dentistry, our profession has a duty and an obligation to furnish honest and accurate information. In the past our representatives have replied capably and honestly but with the growing realization that the frequency and complexity of these discussions demanded larger facilities and specially trained personnel. The wisdom of these representatives in sensing their own

limitations does them great credit and in no way detracts from the excellence of their services.

The accuracy of our responses is of paramount importance and to produce accurate answers we must have research facilities. Foresight and urgent need led to the establishment in the Canadian Dental Association early in 1960 of a Bureau of Economic Research under the capable

direction of Miss B. I. Boyd.

It was not until after the first decade of this century that health departments were established in Canadian governments. Health was a problem then as it is now but the problem belonged more to the individual. In the last forty to fifty years health departments have been formed in every province with a co-operating Federal department. Each year these departments have extended their interests and concern to the present almost all-embracing degree. What the ultimate will be, whether it is credit card dentistry, package deal dentistry, or complete health insurance no one can really be sure; but one thing is certain however, the dental profession must prepare for total inclusive government participation in the dental health field in case this becomes inevitable.

For better or for worse greater government interest is inching closer and closer, even in the face of serious disappointments and grave doubts about similar government programs in other countries. No good can come from burying our heads and saying this cannot happen. It is equally undesirable to assume that nothing our profession will do can alter the course ahead and therefore we might as well feast plethorically upon the current provisions.

If our profession is prepared, even over-prepared, to meet these surging trends, nothing but public benefit and good can result. One way and assuredly the best way to prepare dentistry for continued, intelligent and useful function as a health service within a total health scheme is to develop a storehouse of irrefutable facts related specifically to dentistry. The Bureau of Economic Research is a sound means to this end.

When we as private practitioners are asked a definite question related to dentistry in Canada or to a certain province we must have some place to turn for the answer. The logical source of reference should be our national body, the Canadian Dental Association. If we turn there in vain then we must next turn to our pro-

vincial organization or to our local society where we can expect answers that are only local and perhaps circumspect in nature. This is all they are equipped to provide. Provincial organizations and local societies require a reservoir of varied facts that can be obtained immediately when required. The past few years bear stark evidence of such need particularly within the western provinces.

From the new bureau will come valid proof that we know more about dentistry than anyone else. The vast and complex yet fundamental problem of relating public benefits (treatment) to cost and to the distribution of dentists will be one of the earliest and most formidable undertakings. Without such information we are easy prey to dental service plans based solely upon guess work or worse still upon political expediency which could give birth to substandard dental incomes and mediocre dental services.

The fields of study for this department are broad in scope and will often require our individual and forthright co-operation to insure accuracy and optimum benefits. Listing a few of the proposed projects will exemplify their diversity:

- Cost of living increase and general increases in wages compared with increases in dental fees.
- A broad study of dental fees in order to substantiate reasonable fees.
- Economic factors that determine the location of dental practices.
- A study to show where dentists are needed.
- The relationship of age to income of practitioners.
- How much time is given to needy patients.
- A survey of the cost of becoming a dentist, how this is usually financed and how this training compares with previous years and with other courses

Internal evaluation and scrutiny may not always reveal facts that are pleasing to us. When this is true we will have to

effect all possible changes. It would be decidedly unwise to remain in ignorance of our own shortcomings. In all likelihood the revelations of these studies will be most favourable and if so will strengthen our opportunities to continue to render treatment in the best way possible.

If the facts from these studies are un-

favourable to dentistry, then no volume of drum beating by professional public relations concerns will offset the truth or prevent public realization. However, when the facts are favourable the very best public relations can be achieved on a sure and lasting foundation — a foundation of proven merit.

BOOK REVIEWS

Anatomy for Students of Dentistry

Scott, J. H. and A. D. Dixon.

The Macmillan Company of Canada Ltd., 1959.

484 pages. Price—\$9.35.

This is a detailed presentation of gross anatomy for dentists, not merely a condensation of the head and neck section of a larger textbook. Throughout, the authors have shown a skill for clear explanation and an awareness of the practical applications of the structures described.

Its value to students lies in its orderly presentation, the well reproduced photographs, the many drawings which are complementary to the text, and the wise choice of emphasis on subject matter. It provides a solid background for later work in the clinic.

In the hands of the practitioner, it provides a refreshing return to the basic science foundation of dentistry. The cranial nerves are particularly well described and illustrated by unusual white-on-black diagrams. Recent concepts on the growth of the skull are discussed. The final section of the book deals with clinical anatomy: surface anatomy of the face, interpretation of x-rays, the spread of dental infection, fractures of the jaw, cranio-facial pain, and the anatomy of oral cancer.

The major criticism is the absence of any bibliography, which decreases its value to the graduate. A personal opinion is that the material covered in Chapter VIII entitled Detailed Systematic Anatomy might better be included with the regional anatomy of the head and neck.

This volume was designed as a companion to *Dental Anatomy* by Scott and Symons, which is also a good book.

J. E. Anderson

Oral Anatomy

Prepared by: H. Sicher, M.D., D.Sc.

Published by: The C. V. Mosby Co.

Pages: 514—314 Illustrations. Price: \$13.50.

The third edition of this excellent textbook comes as close to success as is humanly possible in this most difficult area of teaching. The author, who is a professor of anatomy and histology affiliated with several dental schools, has an impressive background in his chosen field and he writes with obvious authority; but, more important, his erudition has not befogged his book. The result is a readable, sensible, beautifully illustrated, up-to-date and highly scientific work of less than 500 pages at a price that is not beyond the resources of students.

It has been a common observation that the teaching of anatomy to dental students from books designed for their medical colleagues is a compromise, which—like all compromises—leaves everyone only partly satisfied. Ironically, the chapters of such books treat the regions of greatest interest to dentists both too broadly and too superficially. Meanwhile, the first-class books on special dental anatomy are too exotic and too expensive for the beginning undergraduate. Sicher's *Oral Anatomy* succeeds in

bridging the gap to the point where the undergraduate can use it to both learn and review all the special anatomy of practical importance and, at the same time, he can add a book to his reference library for his post-graduate years.

At first glance, it would appear that the book has one serious deficiency, i.e., there is no section on general human anatomy. It soon becomes apparent that this "deficiency" was actually planned. The decision to omit a section on general anatomy (which would have undoubtedly raised the size and price of the book to prohibitive proportions) is not serious in the present era when several low-priced, smaller, but authoritative textbooks of general anatomy are available. This makes it unnecessary for the dental students to purchase the tradition-encrusted anatomical giants. With one of the new smaller general anatomy textbooks and Sicher's *Oral Anatomy*, the dental student is now well cared for—perhaps for the first time.

For those who are familiar with the earlier edition, the most noticeable changes are in the chapters on the growth of the skull and the anatomy and function of the temporomandibular joint. These have been modified and enlarged because of recent advances. The chapter on the jaw joint has been entirely rewritten. Further changes and additions have been made throughout, and the new official *Nomina Anatomica 1955*, has been incorporated into the text (older terms being retained in parentheses wherever necessary).

The book is divided into two parts. Part I, *Descriptive Anatomy*, includes chapters on the skull, the muscles of the head and neck, the temporomandibular articulation, the viscera of the head and neck, the blood vessels, the lymphatics and the nerves of the head and neck.

Part II, *Regional and Applied Anatomy*, includes chapters on the palpability of the facial skeleton, the structure and relations of the alveolar processes, the anatomy of local anesthesia, arterial hemorrhages and ligation of arteries, the propagation of dental infections, tracheotomy and laryngotomy, the temporomandibular articulation, and the edentulous mouth.

J. V. Basmajian

important topic. His approach is direct and refreshingly uncluttered by historical references and theoretical detail. He displays throughout the book a profound sense of learning, excellent experience and sound judgment. He adheres throughout to his unswerving principles and professional ethics.

The subjects of trance inductions techniques and deepening methods for adults and children are very capably discussed as are the other phenomena of controlled therapeutic suggestion. The author deals especially well with the problems of fearful patients. The many phases of hypnotic technique in general practice are described concisely, with clear comprehension and insight. His discussion of relaxation and control of the uncooperative patient is well presented, as are the prevention of fainting, gagging and nausea and the tolerance of oral appliances. Dr. Frost concludes with a series of typical case histories containing material of significant value.

Dr. Frost's book, perhaps by reason of its compactness seems in places to show a disappointing lack of therapeutic approach to the patient's basic psychological problem as such. This is felt the more so since he seems to be a man with a great potential as a psychological counsellor. The reader may also sense some absence of desirable material regarding refractory patients.

The book seems heavy with cautious preparations and labored inductions. One would rather wish for details of rapid casual hidden induction, with more attention also to problems of symptom control.

Otherwise this volume is clearly and thoughtfully conceived and is presented by a man of obvious skill and experience. Designed for rapid comprehension and easy reference, this text will be of great advantage to students of hypnodontics whether they be advanced or beginner. It is a valuable item for the library of any dentist; perhaps one of the indispensable foundation blocks for the future of the dental profession in its proper status as a psychobiological science.

E. G. Bilkey.

Hypnosis in General Dental Practice

Prepared by: Thomas W. Frost, L.D.S.

Published by: The Year Book Publishers Inc.

Pages: 128. Price: \$4.50.

Dr. Frost has written here a delightfully readable and free flowing book on this very

H₂ in the Battle Against Old Age

by Henry Marx, 194 Pages. Plenum Press Inc., New York, 1960.

Price: \$4.95.

The reading of this book leaves this reviewer with some misgivings. Its object is to present the effects of repeated procaine injections in old people to restore youthful vigour and relieve them of numerous physical complaints. In essence it's a formula for

rejuvenation. The list of morbid changes helped by procaine injections is best illustrated by quoting from page 42.

"I was struck by these rejuvenating effects (of procaine). I consider as rejuvenating characteristics restoration of a youthful and fresh appearance, better posture, improvement in skin turgor, in sight and hearing, no more falling of the hair, increase in cerebral functions, such as thinking capacity, memory, sleep, mood, efficiency and elasticity, the increase of sexual and other hormonal functions (return of libido, normalization of menstruation), also an improvement in heart and circulatory disturbances, blood pressure, arthritic complaints and numerous manifestations of old age, some of them measurable through the electrocardiograph, blood pressure or metabolism measurements."

This is a formidable array of physiologic degenerations and if procaine acts to restore these functions to normality it must truly operate at a very fundamental biological level. This points to a need for an extensive study into its pharmacologic actions, which,

as Prof. Aslan admits, are as yet not completely known.

It is my belief that the quasi-scientific evidence presented in this volume will surely raise unwarranted interest in an as yet unsubstantiated concept. The challenge however is there, and if and when the proponents of procaine therapy have established the efficacy of its use then, and only then, the world will beat a path to its door.

Empiric observations often start an investigation but substantiation must withstand the cold light of scientific objectivity. The medical profession is right in maintaining a healthy scepticism towards such a treatment, which is not to say that they are not interested in the project, but rather that acceptance follows proof.

After reading this book the question arises as to what is the author's purpose in trying to reach the public by bypassing the medical profession? If the technique is good it must bear their stamp of approval.

It is for the above reasons that the book cannot be recommended for its original purpose.

H. A. Hunter

THE LIBRARY

ADDITIONS

BLACKMAN, S.: An atlas of dental and oral radiology. Bristol, John Wright & Sons Ltd., 1959. 371 p. illus. \$14.25.

COLLINS, L. H. & CRANE, M. P.: Internal medicine in dental practice. 5th ed. Philadelphia, Lea & Febiger, 1960. 555 p. illus. \$8.50.

DAVIDSON, M.: The Royal Society of Medicine; the realization of an ideal, 1805-1955. London, Eng., The Royal Society of Medicine, 1955. 201 p. illus. \$2.97.

DENTAL CLINICS OF NORTH AMERICA, March 1960: Symposium on practical periodontal therapy. Irving Glickman, con-

sulting editor. Philadelphia, Saunders, 1960. 226 p. illus.

FERRIER, W. A.: Gold Foil operations. Seattle, Univ. of Washington Press, 1959. 106 p. illus. \$3.25.

FROST, T. W.: Hypnosis in general dental practice. London, Henry Kimpton, 1959. 128 p. illus. \$3.25.

GARDNER, GRAY & O'RAHILLY: Anatomy; a regional study of human structure. Philadelphia, Saunders, 1960. 999 p. illus. \$15.00.

GROSSMAN, L. I.: Endodontic practice. 5th ed. Philadelphia, Lea & Febiger, 1960. 402 p. illus. \$7.50.

ATLANTIC PROVINCES DENTAL CONVENTION

SAINT JOHN, N.B. — JUNE 5, 6, 7, 8

Dental Health is Community Wealth



SUBJECT: — *Oral Surgery*

CLINICIAN: — Dr. Harry W. Archer, Outstanding Oral Surgeon, Internationally Known Clinician and Author, Professor of Oral Surgery and Anaesthesia at University of Pittsburgh

SUBJECT: — *Audio Analgesia*

CLINICIAN: — Dr. Wallace J. Gardner, Originator and Noted Lecturer on Development and use of Audio Analgesia. The Revolutionary New Development in Dentistry



SUBJECT: — *Fundamentals of Complete Denture Construction*

CLINICIAN: — Captain W. Gry, D.C., USN, Head of Complete Denture Branch United States Naval Dental School, Bethesda, Md.

SUBJECTS: — *Operative Dentistry with Rubber Base Impression Materials*

— *Increasing Efficiency in Operative Dentistry*

CLINICIAN: — Dr. P. G. Anderson, Professor of Operative Dentistry at The University of Toronto, A Native New Brunswicker



SUBJECTS: — *Varied*

CLINICIAN: — Dr. D. Woodside, Professor of Orthodontics at The University of Toronto

TABLE CLINICIANS:

Capable and well known Clinicians from the Canadian Army, Dalhousie University and Individuals from the Maritimes, will present a worthwhile Scientific Program.

EXHIBITORS:

Includes a wide Cross Section of various Scientific and Technical Fields serving the Dental Profession.



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Almost three quarters of one million dollars were paid to dentists for treatment rendered under plans administered by D.S.P.I. in its first year of operation.

Certainly we are more interested in the treatment provided to patients than we are in dollars alone. But we think these figures have a story to tell. D.S.P.I. is still a mere infant — only one year old — and already it is a significant factor in many dental practices in the five provinces which have dental plans administered by D.S.P.I. Another very important factor is that the dental profession through its control of D.S.P.I., is gaining invaluable experience in administering plans for dental care. Such experience could well be very important to the profession in the not-too-distant future.

The success of D.S.P.I. is credited to the wonderful co-operation of hundreds of dentists and their assistants. Some appreciation of the amount of work involved may be gained from the fact that the average payment received from patients was about \$12.00.

With continuing co-operation from dentists and patients, there is no telling how much D.S.P.I. may contribute to the extension of dental services.

THE ASSOCIATION

Committee on Publications

It is with sincere regret that the Committee on Publications announces the resignation of Dr. Edward R. Bilkey from the office of Editor of the Journal of the Canadian Dental Association. The committee fully realizes the problems created for any dentist who assumes responsibility for the editorship of a national association publication while continuing to engage, on a half-time basis, in the active practice of dentistry. Therefore, however reluctantly, the committee accedes to Dr. Bilkey's expressed desire to return to full-time practice.

Dr. Bilkey, since assuming the editorship with the January 1959 issue, has enjoyed a most successful term and his talented editorial contributions will be missed.

The Committee on Publications has recommended to the Executive that the editorship now be created a full-time appointment. The editor, thus, could become increasingly familiar with all aspects of Association affairs through greater participation in meetings and conferences and through a broadened exchange of views with others giving leadership to our profession.

Frank Martin, Chairman.

The Canadian Dental Association invites applications for the post of Editor of The Journal of the Canadian Dental Association

The successful applicant should have the following qualifications:

1. Graduation from a dental school.
2. Experience in the practice of dentistry.
3. Ability to write and use language properly.
4. Wide interests in scientific dentistry and in the work of dental organizations.

This is a full-time appointment, in keeping with the expansion and growth of Journal activities and salary will be in accordance with the successful candidate's experience and attainments. In addition to salary, selected applicant will participate in the Association's pension plan together with hospital and medical service plans. The Editor will be required to live and work in Toronto with some necessary travel.

Applications should be sent in writing with full particulars to

The Secretary, Dr. Don W. Gullett,
Canadian Dental Association,
234 St. George Street,
Toronto 5, Ontario.

Saskatchewan Reverses 1959 Action

By adopting recommendations of the dental profession, the Saskatchewan legislature has reversed its decisions of last year. A complementary bill respecting registration and licensing of dental technicians, similar to legislation in other provinces, was also adopted during the 1960 session. A bill presented by the so-called "denturists" was not adopted.

Bill 90, presented in 1959 in behalf of the profession, was amended drastically by the legislature. As a result, almost anyone, with or without qualifications, could practise dentistry (except extracting teeth) in Saskatchewan. The provisions deleted from Bill 90 a year ago were presented again this year and were adopted on March 25 with minor amendments. The bill now contains a definition of dentistry (similar to that in the Ontario act and others, with the addition of "for hire, gain or hope of reward") and a prescription clause. One of the 1960 amendments permits minor repairs (to be defined) to dentures without prescription by a dentist.

Credit for the 1960 reversal in favour of the dental profession is due to Saskatchewan dentists who have conducted a grass roots educational campaign for the past ten months.

Regina Leader-Post Editorializes on Recent Saskatchewan Legislation

DENTISTS VICTORS

The controversial issue of how much scope is to be permitted public denturists in direct dealings with the public has been settled. Two of the three bills pertaining to dental matters which were launched at this session of the legislature have been passed.

Thursday, the bill providing for the establishment of a Dental Technicians' association received final reading. There was one amendment which provides that public denturists in business in Saskatchewan as of April 1 this year will be permitted to become members of the association on application without passing examinations.

Friday afternoon, the legislature approved the bill to amend the Dental Profession act of 1959. This expunges from the 1959 act the provision that denturists could make and fit dentures if the patient had obtained a certificate of oral health. Dentures may be obtained only on prescriptions from dentists after the government proclaims the new legislation. Before passing the dentists' bill, amendments were put through to provide that technicians could make "minor repairs" without a prescription and that the college of dental surgeons has the right to define these "minor repairs."

The third of the three bills, which provides for the establishment of a Saskatchewan Society of Public Denturists, is bogged down awaiting second reading. But since the passage of the other two bills kicks the props out from under the denturists, there would be no point in further considering this measure.

The decision the legislature has reached appears to have been a wise one. Something further had to be done after the passage of the Dental Profession legislation a year ago. Denturists were permitted scope to deal directly with the public without any form of control over their operations except for

the provision that certificates of oral health had to be obtained.

The dentists have won their fight for the sole right to prescribe with respect to dentures. Their contention that their training fitted them to carry out exclusively the role as custodians of the people's oral health carried weight. The legislators too were impressed by the suggestion that permitting denturists to take a large slice of the profitable denture business might make Saskatchewan unattractive to dentists.

The denturists have lost out. But their livelihoods haven't been cut off completely. The door is open to them to join the technicians' association and carry on.

Tightening the dentists' act and the act setting up a technicians' association represent restrictive legislation. It mainly is directed toward curtailing competition. Obligations and responsibilities go with privileges acquired through such enactments. One of these is to avoid taking advantage of these privileges by charging the public exorbitantly. If the obligation to avoid doing this is adhered to, the public undoubtedly will be happy with the arrangement that the legislature has worked out.

British Commission Reports on Doctors' and Dentists' Remuneration

The Royal Commission on Doctors' and Dentists' Remuneration, under the National Health Service of Great Britain, appointed in March 27, 1957, has recently published its report. The Commission was to compare doctors' remuneration with that received by other professional people, in order to establish proper current rates of remuneration. It was also to consider what arrangements could be made to keep the system under review.

The Commission recommended that, at the present time, there should be no change in the current payments for units of dental services, but that a standing dental rates study group should be established which would represent the profession, the health department, and time study men. The function of this group would be to fix average times for each dental operation; determine the average hours worked per annum, and thus calculate a new schedule of gross fees so that a dentist working an average length of time would, in a year, earn £2,500. These recommendations are to apply over a three-year period beginning January 1st, 1960.

Medical doctors were granted increases in remuneration and retroactive payments, but similar recommendations for family dentists were rejected. It was pointed out that, although dentists had been earning too little at the time of the Commission's appointment, they had since received a 5% and a 4% increase in net remuneration. Earnings of dentists increased more than those in other professions (while earnings of medical doctors increased less), but in absolute terms they were actually more than the earnings of physicians.

A main determinant in the annual salary of dentists under the National Health Ser-

vice must be the number of new members entering the profession. It was felt however, that increase in remuneration could not alleviate the current shortage of dentists because the existing schools already are filled to capacity. The Commission found no ground for assuming that net emigration among doctors and dentists is greater than among the population as a whole.

The plight of the British dentist has, in the past, been augmented by the uncertainty of his income which would be drastically changed at any moment by arbitrary action of the government. To guard against this in the future, the Commission suggested the establishment of a review body of seven members appointed by the government after consultation with the professions. No member of the medical or dental professions would be included. This committee would advise the Prime Minister on the doctors' and dentists' remuneration which it was thought should not change more frequently than every three years. The Dental Rates Study Group would continue to review timings of dental operations and, when it was decided to change the net average income of dentists, the study group would have at its disposal an up-to-date basis for a new fee schedule.

The one memorandum of dissent, although it disagreed with several items in the report, agreed with all the conclusions and recommendations regarding dentists.

Family Health Expenses Rise

Family expenditures for health have risen from 4.6% of the average family income in 1953 to 5.6% in 1958 in the United States. Of every dollar spent on personal health services in 1957-1958, 15 cents went to dental care (compared with 16 cents in 1952-1953). These figures and those which follow are contained in a report published by the Health Information Foundation on some of the findings of a survey of family medical costs and voluntary health insurance in United States.

Physicians	34 cents
Hospitals	23 "
Drugs and Medications	20 "
Dentists	15 "
Other medical goods and services	8 "
Total	1 Dollar

Over the five year period 1953-1958 the amount spent per capita on dental care rose from 10 dollars to 14 dollars. When distributed according to age and sex the capita expenditures are as follows:

Total	14 dollars
Under 6	1 "
6 - 17	14 "
18 - 34	17 "
35 - 54	19 "
55 - 64	15 "
65 and over	10 "
males	12 "
females	16 "

Dentists accounted for very small proportions of total expenditures for children under six (2 cents per medical care dollar). There were more important components of total spending for the 65 and over group (5 cents). Spending for dental services declined as age rose after 35, while spending for all other personal health services increased. At ages 6-17 spending for dentists became an important component of all health outlays (14 dollars out of 49 dollars).

It is estimated that more of the increase in expenditures on dental care was due to increased use (24.7%) than to increase in costs (12.3%).

Health Insurance—House of Commons Debates

The following is a summary taken from "House of Commons Debates" for Monday, February 29th, 1960. It should be added that debating time was used up with no formal action on the subject being taken.

Mr. A. Peters (CCF)

Moved that the Government give consideration to the advisability of instituting a comprehensive system of National Health Insurance with special reference to amending the Hospital Insurance and Diagnostic Services Act to provide for patients in tuberculosis sanatoria and mental institutions and to provide for medical, dental and optical coverage.

"As the costs of health care increase it becomes increasingly necessary that some form of health insurance be implemented in Canada to take care of the needs of those people who are less able to finance a plan of their own . . .

We believe that the Federal Government, which has given the lead to some of the Provinces in . . . (the) field (of hospitalization), should also give a lead in completing the coverage of free health insurance to all the people of Canada . . .

. . . it seems to me that we in Canada can afford the best type of health care for all our people irrespective of their earning power; and that if we can afford this care we should be able to supply it."

Described some of the problems that have

arisen under the provincial Hospital Insurance Plans.

Commended the provision in the British Health scheme for supplying free eye glasses.

"There are many people in Canada, certainly many students in rural schools, who need some kind of glasses, no matter what they are."

Stated that costs have arisen to the point where many people are finding it beyond their means to obtain medical, dental and optical care.

"A provision of this kind will be implemented in Canada eventually, and in my view we should not wait for more time to elapse. We should co-operate to the best of our ability to make this type of coverage available to any Province which wants to develop it on a provincial basis."

"... the sooner we set up a conference to assess the cost and ascertain the legislation that is necessary to implement (the) project (covered by the Resolution) on a broad and comprehensive scale, the sooner the people of Canada will be able to enjoy the benefits of an effective health insurance program."

Dr. G. C. Fairfield (PC)

Opposed the portion of the Resolution dealing with a National Health Insurance scheme on the grounds that accompanying regulations governing the conduct and practice of doctors would be detrimental to medical practice.

Reviewed federal health measures that already exist including the medical research programs conducted by the Defence Research Board, the food production regulations and examination administered by the Department of Agriculture and the Food and Drug control by the Department of National Health and Welfare. Enumerated the other health services provided through the Department of National Health and Welfare and the various provincial schemes and described the services available and the work done by the national voluntary health organizations. Also made reference to the pre-paid medical insurance schemes in operation in industrial and urban areas and in various groups across the country.

Gave statistics on the estimated expenditures per family for all health expenses including medical, dental and optical charges and said that the increase in doctors' fees, with the possible exception of specialists, had been very slight since 1936.

Took issue with Mr. Peters' implication that doctors provide better medical treatment to persons with means and described the free services rendered by doctors in their communities such as treating charity patients, examining school children and teaching nurses in training schools.

Stated that there is one doctor for each 2,000 of the population and that in some rural areas this works out to one for each 5,000 or 6,000. Said that the number of yearly graduates in medicine is decreasing to an alarming degree and attributed this to the fear of state control of the medical profession.

Mr. A. Brassard (L)

Supported the Resolution and stated,

"I would like to see taxes paid by the people of Quebec return to us, as soon as possible, in the shape of hospital assistance for our Province..."

I therefore trust that it will not be long now, before the Commission set up by the Quebec Government—or which is about to be set up—considers the hospitalization problem in Quebec and concludes its study with a recommendation..."

Dr. P. Vivian (PC)

Stated that tubercular and mental patients in sanatoria are within the scope of provincial responsibility for which financial provision is made under the Dominion-Provincial Tax Agreements and observed that long stay custodial care is not likely to be as prevalent in the future as it has been in the past due to modern treatment methods. Said the Provinces could prepare in an evolutionary way to give up this responsibility if they wish to do so.

Referred to the need for health education and the amount of publicity necessary to the success of any public health scheme and described the health programs available at the municipal level through local health units.

"We have all been impressed... by the stories... of people whose life savings have vanished and to whom great hardship has been caused by reason of... difficult and long illnesses... It may... be desirable to provide for a further extension of insurance of a disaster type, partly or even wholly under Government auspices, so as to prevent a family's savings being wiped out by the tremendous cost of these long enduring illnesses."

Spoke of the pressing problem of outpatient hospital services.

"... I express the hope that... the hospitals themselves, in co-operation with the medical profession, will enable us to find a way to improve and assist the work of hospital outpatient departments..."

Mr. H. J. Robichaud (L)

Observed that careful consideration should be given to the inclusion of dental and optical care in the provisions of the Hospital Insurance and Diagnostic Services Act.

Urged the Government to amend the Act

so that interest and depreciation may be included in the per diem rate charged to patients so that the municipalities and religious orders would have this incentive to proceed with new construction to help meet the shortage of hospital beds.

Dr. H. M. Horner (PC)

Stated that psychiatric units in general hospitals and the active surgical treatment of tubercular patients are covered by the provisions of the Hospital Insurance and Diagnostic Services Act.

Expressed the opinion that Canada is not yet ready for a comprehensive health insurance scheme. Spoke of the need for more hospital beds and suggested that building small cottage hospitals in areas surrounding the urban centres might help the situation.

Said that before we could have a satisfactory comprehensive national medical insurance plan we would need to train more personnel in the mental health field, as well as nurses and other technicians.

"Throughout the country there are various voluntary associations formed by interested people, some of them sponsored by groups or provincial associations of medical practitioners. These associations are doing a good job. In a discussion of this kind it might be worthwhile to consider whether or not, they could not do a better job with Government assistance, and provide comprehensive coverage for all the people within their areas . . .

. . . if any national scheme is put into effect in Canada I hope we will consider the basis on which medical practice is now carried on in Canada. The basis has to be the general practitioner and he must be preserved at all costs because he is of great value to the general health of the country."

Observed that some consideration might be given to provision for the loss of income through illness of persons insured under the Act.

Mr. C. W. Carter (L)

Urged the Government to bring mental patients in sanatoria under the provisions of the Hospital Insurance and Diagnostic Services Act.

"The problem of mental illness is not decreasing but is getting greater and more costly every day. The distinction between physical and mental illness has also grown less. There is still outstanding what is perhaps the most tragic problem of all in connection with mental illness, the woeful lack of facilities for the treatment of children who have the misfortune to be afflicted with this illness."

Mr. M. W. Martin (CCF)

Speaking on that part of the Resolution dealing with dental care said,

"I think the reports from dental associations show that . . . one of the biggest needs in this country (is) a better dental service than we have at the present time . . . I am saying (this) in criticism of the way we have looked at the dental service which is provided and the lack of interest we have shown in it in the past."

Dr. O. H. Phillips (PC)

Placed on record several items from the policy statement on health insurance issued by the Canadian Dental Association in 1956.

Discussed various public and private dental schemes now available to Canadians and described some of the plans operating in the United States.

Hon. P. Martin (L)

Urged the Government to support the Resolution.

"I think our objective in this country at this time, and I would take it that it must be the objective of all of us in this House, is that our primary concern is to see to it that no individual in Canada is denied the best possible medical, dental and optical care regardless of financial circumstances. That is the objective. It would be difficult surely for anyone to take the position that in this day of social progress the advantages of medical science should not be made available to everyone in this country who needs it.

"No effort ought to be undertaken by the Federal Government which could in any way be regarded as a usurpation of provincial autonomy, provincial responsibility or provincial jurisdiction . . . All this Federal Government and this Parliament can do is to make offers to the Provinces; it is up to the Provinces to accept them in the light of their considered needs and their judgment as to their capacity and desire to meet those needs."

Observed that when the subject of coverage for tubercular and mental patients in sanatoria came up at the 1958 Dominion-Provincial Conference the Government, while suggesting this could be done, stipulated that funds expended by the Federal Government for that purpose would have to be considered as diminishing the amounts of money extended the Province under the Federal-Provincial Tax Agreements.

Stated that any expansion of the present Hospital Insurance Plan should not destroy the traditional relationship between the patient and his doctor.

Reviewed the National Health Grants program which was established prior to the introduction of the Hospital Insurance Plan.

" . . . the General Public Health Grant represents one of the really great achievements of that program because . . . one of

the elementary phases in the organization of attack against disease and in the building up of healthy bodies in this country is the Public Health Unit. The Public Health Unit has been expanded all over this country to the extent of many millions of dollars by the grant provided for by the Federal Government in the field of Public Health."

Dr. Joseph Slogan (PC)

"There are three things we must remember when we consider dental health, namely education, prevention and treatment . . . The one thing that we can do as a society

through a system of education is educate people to care for their teeth in such a way that treatment would be lessened."

Said that before the Government embarks on a plan of health insurance it should consider other beneficial schemes such as fluoridation.

Mr. Charles Richard (PC)

Maintained that before the terms of the Hospital Insurance Act are extended the Hospital Insurance scheme should be made acceptable to all Provinces.

THE CORPS

Colonel J. F. Edgecombe appointed Honorary Colonel Commandant of the Royal Canadian Dental Corps

It has been announced at Army Headquarters that the Minister of National Defence, The Honourable G. R. Pearkes, V.C., has approved the appointment of Col. J. F. Edgecombe, O.B.E., E.D., C.D., D.D.S., F.I.C.D. as Honorary Colonel Commandant of the R.C.D.C., effective 6th January 1960.

Col. Edgecombe was born on 15th October 1898 and attended Fredericton High School in Fredericton, N.B. He enlisted in the 9th Siege Battery in Sept. 1916 and proceeded to France in 1917 where he served in the 3rd C.F.A.

Following his return to Canada and demobilization in 1919 Col. Edgecombe resumed his studies and graduated from the Faculty of Dentistry, University of Toronto in 1923. Between the two World Wars Col. Edgecombe served in the Militia with the Royal Canadian Artillery (3rd Med. Bde) until 1939, attaining the rank of Major.

On 26th September 1939 he transferred to the C.D.C. with the rank of Captain and on 1st November 1939 was promoted to Major and appointed District Dental Officer, Military District No. 7. On 10th November 1939 he was promoted to the rank of Lt.-Col. and in June 1941 he took No. 3 Dental Company overseas. On 1st May 1942 he relinquished command of No. 3 Dental Company on being appointed Assistant Director of Dental Services, First Canadian Army. On 24th October 1944 he was promoted to the rank of Colonel and on 17th March 1945 he was awarded the O.B.E. On 24th July 1945 Col. Edgecombe was appointed A.D.D.S. for 1 Echelon, 21 Army Group, and on 26th November 1945 was appointed Deputy Director Dental Services at Canadian Military Headquarters, London, England. Following his return to Canada he served at the Directorate of Dental Services until March 1946 when he proceeded to Saint John, N.B. on retirement. In 1951 Col. Edgecombe was appointed A.D.D.S. Eastern Command Dental Advisory Staff (Militia), a post that he held until his retirement on 30th April 1959. Col-



RDCD FLASHBACK

A group of dental officers on course at the C.D.C. Technical Training Centre, Utrecht, Holland in 1945.

Photo: Courtesy of Dr. R. Silverstone, Montreal, P.Q.

onel Edgecombe also held the appointment of Queen's Honorary Dental Surgeon to Her Majesty, Queen Elizabeth II, from June 1953 to May 1956.

Col. Edgecombe is a member of Saint Andrew's Church, Saint John Dental Society, New Brunswick Dental Society and a past member of the National Dental Examining Board. He is also an Associate Editor of the *Journal of the Canadian Dental Association*.

Board of Consultants to the R.C.D.C.

Word has just been received that the Honorable George R. Pearkes, V.C., has approved the appointment of the following members to the Board of Consultants in the specialties indicated:

Dr. J. E. Abra, Winnipeg, Man.—Orthodontics.

Dr. R. J. Godfrey, Toronto, Ont.—Prosthodontics.

Dr. D. W. Gullett, Toronto, Ont.—Dental Ethics.

Dr. J. P. Lussier, Montreal, P.Q.—Dental Research.

Dr. H. R. MacLean, Edmonton, Alta.—Oral Diagnosis and Roentgenology.

Dr. J. D. McLean, Halifax, N.S.—Restorative Dentistry.

Dr. J. W. Neilson, Winnipeg, Man.—Periodontics.

Dr. D. W. Tanner, Toronto, Ont.—Oral Surgery.

A short biographical sketch on each member of the Board of Consultants will be published in the next issue of the *Journal*.

Brigadier Baird Attends Meeting On Dental Research

Brigadier K. M. Baird, Director General of Dental Services attended the 26th Meeting of the Associate Committee on Dental Research of the National Research Council held in Ottawa on 3rd and 4th March 1960.

Colonel Shillington Inspects Eastern Militia Units

Colonel G. B. Shillington, Deputy Director General of Dental Services inspected No. 50 Dental Unit (M) in Halifax, N.S. and No. 51 Dental Unit (M) in Saint John, N.B. during March. Both units are competing in the 1960 (Militia) General Efficiency Competition.

Officers Attend Conference on Military Dentistry

Lt.-Col. G. R. Covey, C.O. 35 Field Dental Unit, No. 1 Air Division, Metz, France and Lt.-Col. R. H. G. Cunningham, C.O. 4 Field Dental Company, 4 Canadian Infantry Brigade, Soest, Germany attended a Conference on Military Dentistry held at the Royal Army Medical College, London, England on the 12th and 13th of March 1960.

Courses

The following R.C.D.C. officers have recently attended postgraduate courses:

Major S. W. Muller, No. 14 Coy. R.C.D.C., Winnipeg, Man.—Crown and Bridge at the University of Michigan.

Major J. M. A. Donely, No. 1 Clinic, A.F.H.Q., Ottawa, Ont.—Complete Dentures at the University of Pennsylvania.

Major J. McGaughey, H.M.C.S. Stadacona, Halifax, N.S.—Crown and Bridge at the University of Pennsylvania.

Capt. J. J. N. Wright, The R.C.D.C. School, Camp Borden, Ont.—Endodontics at the University of Toronto.



**CANADIAN DENTAL ASSOCIATION
L'ASSOCIATION DENTAIRE CANADIENNE
EASTERN ONTARIO DENTAL ASSOCIATION**

SEPTEMBER 25 - 28, 1960

Chateau Laurier Hotel, Ottawa

**C
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C.D.A. PREMIERE

For the first time in C.D.A. history, the Board of Governors will meet in the Parliament Buildings. Every Canadian dentist can enjoy this unique privilege by attending these sessions from Sept. 25th to Sept. 28th.

**E
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Simultaneous Translation

Traduction simultanée

The addresses of the essayists and luncheon speakers will be translated simultaneously into French.

Les allocutions des conférenciers et celles des orateurs invités aux dîners-causeries seront traduites simultanément en français.

PROGRAM

Sunday, September 25th, 1960

9.00 A.M. REGISTRATION

9.30 A.M. JOINT SESSION

Canadian Society of Oral Surgeons and Canadian Academy of Periodontology

Speaker: Dr. Donald A. Kerr

Subject: "Blastomatoid Lesions—Their Diagnosis and Treatment"

10.30 A.M. ORTHODONTIC SECTION

Speaker: Dr. J. A. Salzmann

Subject: "The Role of Cephalometrics in Orthodontics in the Light of the Second Workshop"

Afternoon Tours

Information available at the hospitality desk

National Capital Commission Parkways,

Parliament and Government Buildings,

Public Archives of Canada

8.15 P.M. RECEPTION—NATIONAL GALLERY OF CANADA

Monday, September 26th, 1960

8.00 A.M. REGISTRATION

9.30 A.M. OPENING CEREMONIES

10.00 A.M. ESSAY

Dr. Miles R. Markley

Part I—"Saving Hopeless Teeth with Threaded Pin Retained and Reinforced Amalgam Foundations and Restorations"

12.30 P.M. CANADIAN DENTAL ASSOCIATION LUNCHEON

2.30 P.M. ESSAY

Dr. Donald A. Kerr

Part I—"Stomatitis due to Trauma"

3.45 P.M. GRIEVE MEMORIAL LECTURE

Speaker: Dr. J. A. Salzmann

Subject: "Orthodontic Principles and Prevention in the Everyday Practice of Dentistry"

8.30 P.M. FUN NIGHT

9.00 A.M. COMMERCIAL EXHIBITS OPEN DAILY

Tuesday, September 27th, 1960

- 8.00 A.M. REGISTRATION
- 9.00 A.M. ESSAY
Dr. Donald A. Kerr
Part II—"Oral Manifestations of Blood Dyscrasias"
- 10.30 A.M. ESSAY
Dr. Miles R. Markley
PART II—"Preserving Teeth and Tooth Structure with Emphasis on Improved Cavity Preparation for Amalgam"
- 12.30 PAST PRESIDENTS' LUNCHEON

2-5 p.m. Scientific Displays and Demonstrations
Presenting recent advances in dental education and dental research

- 6.00 P.M. CLASS REUNIONS

Wednesday, September 28th, 1960

- 9.00 A.M. ESSAY
Dr. Miles R. Markley
Part III—"Building Amalgam Restorations Which Will Last"
- 10.30 A.M. PANEL DISCUSSION
Subject: "Manpower in Canadian Dentistry"
Moderator: Dr. W. G. McIntosh
Panelists:
Dr. J. W. Neilson "Technicians"
Dr. James McCutcheon "Assistants"
Dr. W. J. Dunn "Hygienists"
Dr. R. G. Ellis "Dentists"
- 12.15 P.M. EASTERN ONTARIO DENTAL ASSOCIATION LUNCHEON
Guest Speaker:
The Right Honourable John G. Diefenbaker,
Prime Minister of Canada
- 2.30 P.M. ESSAY
Dr. Donald A. Kerr
Part III—"Selected Types of Stomatitis of Importance to General Practice"
- 6.00 P.M. SOCIAL AND COCKTAIL HOUR
Hosts: Eastern Ontario Dental Association
- 7.00 P.M. C.D.A. PRESIDENT'S DINNER DANCE

Canadian Dental Nurses' and Assistants' Convention

Sunday, September 25th, 1960

3.30 - 4.30 P.M. REGISTRATION

4.30 - 5.30 P.M. C.D.N. & A.A. MEETING

6.00 - 8.00 P.M. RECEPTION

Monday, September 26th, 1960

9.00 A.M. REGISTRATION

OFFICIAL OPENING

10.00 A.M. COFFEE PARTY

Speaker: Mr. W. E. Jackson, Administrator, DSPI
Subject: "Dental Service Plans, Inc."

2.30 P.M. TABLE CLINICS

4.00 P.M. C.D.N. & A.A. HOUSE OF DELEGATES MEETING

6.30 P.M. BANQUET

Tuesday, September 27th, 1960

10.00 A.M. Speaker: Father Lorne MacDonald, Assistant Professor,
St. Patrick's College
Subject: "Social Welfare"

12.30 P.M. LUNCHEON

3.00 P.M. TOUR

5.30 P.M. SOCIAL HOUR

Wednesday, September 28th, 1960

10.30 A.M. Speaker: Dr. J. E. Merritt, Dalhousie University
Subject: "Technique for Crown and Bridge Work"

12.00 LUNCH—your choice

2.00 P.M. C.D.N. & A.A. MEETING

3.00 P.M. C.D.N. & A.A. INSTALLATION CEREMONY

Events for Ladies

Sunday, September 25th, 1960

National Gallery of Canada

8.15 P.M. RECEPTION

Monday, September 26th, 1960

Christ Church Cathedral Hall

12.15 P.M. LUNCHEON AND FASHION SHOW
Coliseum, Central Canada Exhibition Grounds

8.00 P.M. FUN NIGHT

Tuesday, September 27th, 1960

1.30 P.M. CHOICE OF TOURS

(a) Points of interest in Ottawa, or

(b) Part of Gatineau Parkway

3.30 P.M. TOUR OF THE NEW OTTAWA CITY HALL
followed by Tea served on the Terraces

Wednesday, September 28th, 1960

12.15 P.M. E.O.D.A. LUNCHEON

6.00 P.M. COCKTAILS

7.00 P.M. THE PRESIDENT'S DINNER DANCE

REDUCED RAIL FARES AVAILABLE

Special convention rates for railway travel to Ottawa

Certificates for reduced rail fares are now obtainable
from C.D.A. Headquarters

Be Sure To REGISTER EARLY

As

The First 500 To
Register, Who Fly
To The Convention
By T.C.A.

Will Receive A
TCA Overnight Bag



Your Gift For Early
Registration

REGISTRATION FORM

Must be accompanied by Cheque or Money Order
Payable to C.D.A. 1960 Convention Committee

Canadian Dental Association,
c/o Ottawa Tourist & Convention Bureau,
70 Nicholas Street,
Ottawa, Ontario.

Ottawa, Ontario,
September 25-28, 1960.

NAME
ADDRESS
CITY PROVINCE
WIFE'S NAME
Golf Yes..... No.....

REGISTRATION FEE:
Single \$35.00
Wife \$15.00
Both \$50.00
Includes the President's Dinner and
all Official Functions.

HOUSING ACCOMMODATION APPLICATION

....Hotel Room	Single....	Twin Beds....	Double Bed....	\$10.00 to \$16.50	{ Double Occupancy European Plan
....Motel Unit	Single....	Twin Beds....	Double Bed....	9.00 to 14.00	
....Tourist Home	Single....	Twin Beds....	Double Bed....	5.00 to 8.00	

Complete all three in order of preference by marking (A) (B) (C).

In view of the large attendance expected, it might be to your advantage to share a room with another member. Please mention below the name of the person with whom you would like to share your accommodation, otherwise assignment will be made by the Housing Committee.

Names of persons sharing accommodation:

Names &
Addresses &
City &
Arriving Ottawa onat.....a.m.
Departing Ottawa onat.....p.m.
Travelling by Car..... Train..... Air..... Bus.....

POST CONVENTION PACKAGE TOURS

3-day Laurentian Bus Tour DeLuxe: Mont Tremblant Lodge and The Chantecler. All inclusive except gratuities. \$40.00. Yes.....
8-day T.C.A. Tours from Ottawa: All inclusive except gratuities on land portion
Bermuda \$265.00 Yes..... Nassau \$315.00 Yes.....
Take advantage of through fare to your post-convention island. Consult your local T.C.A. office.

Advanced and early registration will be very much appreciated by your committee
and will be most advantageous to the registrant.

THE PROVINCES

ALBERTA

North Eastern Alberta and District Dental Society

The regular meeting of the North Eastern Alberta and District Dental Society was held in St. Paul on January 27th with nine members attending.

Dr. George Gibb from the University of Alberta Faculty of Dentistry, was guest clinician. He presented a very interesting clinic on the subject of rubber base impression materials used in crown and bridge.

P.F.H.

Postgraduate Courses

The Faculty of Dentistry, University of Alberta, presented two short postgraduate courses during May 1960.

May 9 to 13, at the University of Alberta, Faculty of Dentistry, a short course in Interceptive Orthodontics for the General Practitioner. Faculty members who instructed were Drs. R. D. Haryett, B. J. Eastwood and R. P. Mullen with honorary professor, Dr. R. R. McIntyre.

May 15 to 18, at the Banff School of Fine Arts, Banff, a short course in Oral Diagnosis, Pathology and Surgery. This course was specially designed for the private practitioner. Staff members were Drs. D. G. MacGregor, K. A. McMurchy and R. S. Van Alstine.

Calgary and District Dental Society

The Calgary and District Dental Society was very pleased to have as guests for its meeting on Wednesday, February 24th, Dr. Wm. McIntosh, President of the C.D.A., and Dr. Don Gullett, Secretary of the C.D.A. Our members were most impressed with President McIntosh's sincerity and enthusiasm as he outlined the aims, objects, problems and needs of the Dental Profession today. As in past years, we enjoyed once again renewing acquaintances with Dr. Gullett, and listening to his presentation of the recent economic survey. Dr. W. M. Blair introduced Dr. McIntosh, and Dr. R. R. McIntyre introduced

Dr. Gullett. The speakers were thanked by Dr. G. C. Swann.

The March meeting of the Calgary and District Dental Society was held in the Palliser Hotel on Monday, March 7th, 1960. Dr. Robert Perry of Calgary was the speaker of the evening. Dr. Perry showed three colored movies on "The Causes and Prevention of Malocclusion." These were excellent films, and were very well received by the members. Dr. Perry also gave a short talk and offered advice on orthodontic problems. Dr. Perry was introduced by Dr. E. F. Allison, and thanked by Dr. D. N. Allen.

G.W.S.

BRITISH COLUMBIA

B. C. Dental Association

The annual convention of the B. C. Dental Association was held on May 12, 13, and 14. The lecturers were: Dr. Wyman H. Wilson, head of the crown and bridge department of the University of Oregon Dental School, and Dr. Saul Schluger, director of graduate dental education at the University of Washington School of Dentistry, who gave papers on periodontics.

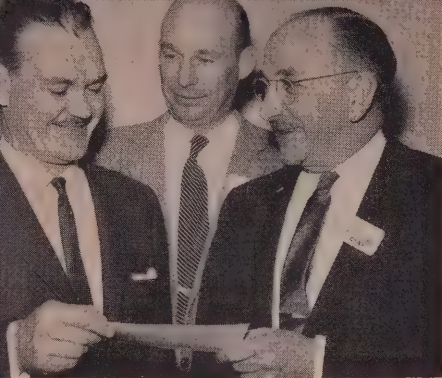
There were table clinics covering all aspects of dental practice, a wide range of commercial exhibits and a full program of social events.

The convention chairman was Dr. Bernhard Kjekstad and the program chairman was Dr. M. J. T. Dohan.

Home Talent Day

An enthusiastic crowd enjoyed the Home Talent Clinics of the Vancouver and District Dental Society on Saturday, February 6 in the Hotel Vancouver ballroom.

At 9:30 in the morning there were two closed circuit televised chair clinics. Dr. Gordon Jinks demonstrated on a child patient the restoration of a fractured central incisor which was rebuilt in Sevitrone using gold pins. His commentator, Dr. Harold Helm described the procedures step-by-step to the eight groups seated around the TV screens. The use of rubber dam in children's dentistry was emphasized.



Dr. W. G. McIntosh, president, Canadian Dental Association, left, receiving cheque from Dr. C. R. Hallman, president of B. C. College of Dental Surgeons. Looking on, centre, is Dr. Orville Wright, president, Vancouver and District Dental Society.

Following, a chair clinic on immediate root canal therapy with resection was given jointly by Dr. Sheppard Margolese and Dr. Clifford Ames, with Dr. Margolese performing the root canal operation and Dr. Ames the root resection, each acting as spokesman for the other.

There were well over a hundred at the luncheon meeting when the society business meeting took place. Dr. Orville Wright, the president, gave special praise to the organizer of the clinics, Dr. Pat Boyle; to Dr. Bill Doe for looking after the local arrangements; and to Dr. Ken McWilliams, door secretary.

A guest, Russell Palmer, M.D., president of the Greater Vancouver Health League, spoke briefly and asked for an official representation on the League.

Dr. Carron Jameson, the guest speaker, outlined the work of the B.C. Dental Association whose main projects have to do with government agencies. He was followed by Dr. Wesley Munsie who spoke about recent College activities.

The afternoon was devoted to table clinics with these participants: Dr. D. G. Marshall, Dr. R. J. O'Neil, Dr. R. L. Scharff, Dr. J. G. Ryan, Dr. John Folkins, Dr. D. A. Anderson, Dr. Fred Katz, Dr. J. L. Fishman, Dr. J. M. Wark, Dr. A. Olffman, Dr. R. F. Butler, Dr. C. R. Braaten, Dr. R. I. Yorsh, Dr. J. M. Carefoot, Dr. T. D. Hope, Dr. W. T. Bryson, Dr. W. Kynoch, Dr. K. E. Murchie, Dr. R. E. D. Munn, Dr. S. B. Smordin, M. G. Atnikov, M.D., Dr. N. C. Ferguson, Dr. J. Penzer.

A dinner dance at the Stanley Park Pavilion brought to a fitting conclusion the first all-day Home Talent Clinics.

Victoria and District Dental Society

At the January meeting Dr. Kenneth Morrison of the department of fixed partial den-

tures at the University of Washington Dental School, presented a talk with slides on crowns and bridges. Of particular interest were his comments and actual illustrations of porcelain fused to gold. Enthusiasm in porcelain work was increased when Dr. Morrison showed some extremely difficult porcelain inlays that had been done by baking direct in an investment model which had been poured in a rubber base impression.

Prince George and District Dental Society

These new officers were chosen at the first meeting of the year: President, Dr. W. J. Aitken; Vice-president, Dr. J. D. McInnis, and Secretary-Treasurer, Dr. J. A. Thorsness.

The society was favored recently by a visit from Dr. C. R. Hallman and Dr. C. B. Jameson, who spoke on College and Association affairs respectively. In addition Dr. Hallman gave a prosthetic clinic on January 24 and 25 which was well received.

D.H.M.

Vancouver and District Dental Society

"The C.D.A. was established to unite dental organizations from coast to coast," stated Dr. Wm. G. McIntosh, president of the Canadian Dental Association, in his address on March 1 to the Vancouver and District Dental Society.

There is one representative on the Board of Governors for every 500 dentists in each of the provinces, sixteen representatives in Canada. The speaker urged attendance of non-delegates at a Board of Governors' meeting to become aware of the wide scope and importance of the national organization.

On the doorstep are these problems: a shortage of dentists, concentration of dentists in urban areas, and the cost of dental service which is beyond the reach of many individuals.

The solution appears to depend upon the efficient use of auxiliary personnel, better preventive measures, research in the preventive fields, pre-payment plans and welfare plans.

The Canadian Dental Association must make a continued and diligent effort in the direction which it believes to be right, and individual members must adhere to this objective if it is to be effective. In the matter of recruitment of dental students, organized dentistry can go just so far—in the end it is the dentist who must encourage recruits.

Dr. Wm. Miller, our representative on the Board of Governors, introduced the national president and Dr. C. R. Hallman, president of the College of Dental Surgeons, expressed the society's thanks for a penetrating review of the problems which face the dentists of

Canada. Later, Dr. Hallman formally presented to Dr. McIntosh a cheque for \$26,120.00, B.C.'s annual contribution to the coffers of the national body.

Dr. Don W. Gullett was introduced by Dr. E. E. Martin, who welcomed back the secretary of the C.D.A. as an old friend. Dr. Gullett's address was based upon a comparison of the 1953 and 1958 surveys undertaken by the C.D.A. The illuminated graphs shown on the screen portrayed clearly a five-years' trend in Canadian dental practice. Dr. Leslie Marshall thanked the speaker at the conclusion of his exposition.

D.H.M.

MANITOBA

\$48,100 Dental Grant

The Department of National Health and Welfare, Ottawa, has announced a grant of \$48,100 has been given to the Faculty of Dentistry, University of Manitoba.

The grant has been awarded to the children's department of the faculty for the new dental school at the university. It will assist in the acquisition of equipment for clinical services to children.

University of Manitoba Formally Opens New Dental School

The Dental College Building of the University of Manitoba was officially opened on Friday, March 18th by the Honourable Doctor George Johnson, Minister of Health and Public Welfare of the Province of Manitoba. The Formal Opening ceremonies were held in conjunction with a Special Convocation of the University at which three members of the dental profession were awarded the degree of Doctor of Laws (honoris causa). The recipients were Harry Ernest Bulyea of Edmonton, the first Professor of Dentistry, and the first Director of the School of Dentistry at the University of Alberta; Harry Lyons of Richmond, Virginia, Dean of the School of Dentistry of the Medical College of Virginia, and Howard J. Merkeley of Winnipeg, a pioneer practitioner, community leader, and contributor to the dental literature. Dean Lyons gave the Convocation address, in which he posed the question of instituting some sort of compulsory minimum health standards for the population just as there are presently, compulsory minimum educational standards.

The Canadian Dental Association was represented by its President, Dr. W. G. McIntosh of Toronto, along with Dr. Gullett and Mr. Croft.

During the ceremonies, the Dean of each of the other five Canadian dental faculties

brought greetings and good wishes from his institution to the Chancellor of the University of Manitoba, Mr. Justice Samuel Freedman. There were in attendance as well four Deans of American dental schools and these gentlemen also extended their congratulations to the Chancellor. The American schools represented were Columbia University, New York City, by Dean Smith; Howard University, Washington, D.C. by Dean Dixon; The Medical College of Virginia, Richmond, by Dean Lyons; and the University of Washington, Seattle, by Dean Hickey.

The Council on Dental Education of the Canadian Dental Association met in Winnipeg at the same time. The Council had not previously met in Western Canada.

The Manitoba Dental Association were hosts at a dinner held in conjunction with the Formal Opening. The Lieutenant-Governor of Manitoba, the Honourable Errick F. Willis, and Mrs. Willis, were honoured and gracious guests at all these events; the Lieutenant-Governor having earlier laid the cornerstone for the dental building. The Minister of Education for the Province of Manitoba, The Honourable Stewart MacLean was also at the dinner. The presence of so many distinguished guests and visitors was a distinct highlight of the Opening itself and of the ceremonies and social events surrounding it.

The new two-storey building at Manitoba cost some two million dollars to build and equip. It has an area of approximately 57,000 square feet, and will accommodate classes of 30 students each year. There are presently two classes in session, although these classes have only recently been able to use the new facilities. The Faculty has a complement of 14 full-time preclinical and clinical dental staff members and 6 full-time appointees in the various basic science departments.

This event in 1960 at the University of Manitoba marks the first occasion since 1916 at the University of Alberta, that a Canadian university has undertaken the establishment of a curriculum in Dentistry. It is to be hoped that another 44 years will not elapse before another of our universities decides to incorporate the teaching of Dentistry as an integral part of its educational responsibility and program.

NEWFOUNDLAND

Hockey

The dental profession in the newest province has been actively participating in Can-



NEWFOUNDLAND DENTAL SOCIETY HOCKEY TEAM

Left to right front row — Drs. J. H. Peters, R. V. Winsor, R. W. Macleod, Wm. Green, G. Anthony. Back row—R. J. Hardie, Wm. O'Driscoll, J. E. Russell, D. A. Hollett, J. J. King, D. K. Peters. Absent were Drs. H. J. Hann and R. A. Downton.

ada's national sport. The profession gallantly accepted the challenge of the Newfoundland Pharmaceutical Society, and proceeded to trounce them in a best of five series, three games to two.

Although goalkeepers were used, scores always went into double figures. The most decisive victory came in the fourth game which resulted in a 20-4 victory for dentistry. In the final game, although trailing by an 8-2 score at the half-way mark, the dental team fought back to earn a 14-13 victory in sudden death overtime.

The old pro of the team, Dr. Bill Green, hadn't played since before the war, and several had been inactive for a decade. These older boys managed to hold their own, although, as might be expected, the younger boys carried the big load. Drs. Russell, Anthony, J. Peters, Hollett and King showed that they have not slipped too far since graduation.

Dr. Bill O'Driscoll smashed the goalpost and a rib during the third game, but returned to complete the series, and Dr. "Weapon" Windsor still showed the form which terrorized opponents at Dalhousie. Dr. "Jacques" Macleod valiantly protected the nets, often against formidable odds.

The team is presently negotiating with other professional aggregations in the vicinity with a view of arranging more games. Meanwhile, rumours of big league scouts being in the neighbourhood are entirely without foundation. D.K.P.

Newfoundland Dental Society

The Annual Meeting of the Newfoundland Dental Society was held in St. John's May 11th to 14th, 1960.

The Dental Wives' Club of St. John's has announced that it will, beginning this year, award a scholarship to a student receiving his Pre-Dental Diploma at the Memorial University of Newfoundland and proceeding to study Dentistry.

ONTARIO

Thunder Bay Dental Association

Dr. L. Opaski was elected president of the Thunder Bay Dental Association, at the annual dinner meeting held in January at the Royal Edward Hotel, Fort William.

Other officers are: vice-president, Dr. G. S. Bowles; secretary-treasurer, Dr. S. P. Smith, and past president, Dr. J. A. Stitt.

Dr. V. Keenan, president of the Royal College of Dental Surgeons of Ontario, was guest speaker. Introduced by Dr. A. Kaukinen, he spoke on Dental Service Plans Incorporated which sponsors a post payment plan for dental services, and a dental care program for mothers' welfare cases, both inaugurated in January 1959.

Representing other professions and bringing greetings were: A. A. Kajander, Q.C., Thunder Bay Law Society; Dr. G. Cramm, Thunder Bay Medical Association; H. Kish, Thunder Bay Pharmaceutical Association; Cam McDonald, Thunder Bay Architectural Association; Curtiss Cotton, Engineering Institute of Canada, and Warren Moore, Canadian Institute of Forestry.

Retiring president, Dr. J. Stitt presided over a short business meeting during which the new executive was elected. Dr. G. Bowles reported on the past year's activities and Dr. G. McKeown reported for the Dental Public Health committee.

G.T.M.

"The Electronic Age and Dental Health"

"Romper Room" children visit the dentist and learn about their teeth. Isn't TV a sensible way for the small fry to learn about health and get acquainted with their friend the dentist? It now becomes one of life's experiences portrayed in its truer perspective by looking in on a scene on the TV screen where other children are exploring this new world. The shroud of mystery and fear is lifted.

Among many TV stations in Ontario who have contributed generously to the promotion of better dental health and especially during National Health Week, we are indebted to the promotion supervisor of CFPL-TV, London, Ontario, for the pictures taken in the TV studio on the occasion of the "Romper Room" class visiting the dentist. We see Miss Dorothy, the teacher, and her tiny tots exploring the not-so-mysterious dental office with the dentist as their friendly guide. That is not all! Thousands of pairs of eyes and ears are living the experience before their screens at home. What a potential medium to promote good dental health habits by beginning early in life when it is still possible to maintain good dental health.



Miss Dorothy of CFPL-TV's Romper Room looks on as Dr. Elgin Thompson, London Dentist, examines one of the pre-schoolers on the show.

We congratulate the London Dental Society for their part in the planning and their co-operation with station CFPL in making the telecasts during National Health Week possible.

The dental profession is grateful to communications people for their generosity in time and services in the cause of better dental health for young Canadians.

G.T.M.

QUEBEC

Montreal Dental Club

The Annual Winter Meet of the Montreal Dental Club was held on the weekend of Feb. 13th, 1960 at the Chantecler Hotel in St. Adele. Fourteen Club members, many accompanied by their wives, spent a wonderful weekend of skiing and curling. Other members travelled north on the Saturday, to spend the day skiing with the group. The weather and the company was fine and a most enjoyable time was had by all.

The second Joint Dental Meeting of the Montreal Dental Societies was held at the Mount Royal Hotel on Monday, Feb. 29, 1960. This meeting was a half day seminar sponsored by the three Dental Societies of the City. Dr. D. Steinberg, President of the Mount Royal Dental Society, introduced the guest speaker, Professor Ralph W. Phillips, Chairman of the Department of Dental Materials, Indiana University School of Dentistry.

The topic of Dr. Phillips' talk in the afternoon session was "An Evaluation of Newer Dental Materials and Techniques". The speaker started out by stating that "no present day material perfectly seals a cavity". In order to provide a perfect seal the material would have to form a chemical bond with the tooth structure. Such a material is being investigated and Dr. Phillips believes that the discovery could be made within the next ten years. Dr. Phillips then carried on with an evaluation of amalgam, cavity varnish, silicates, resins, zinc phosphate cements and zinc oxide-eugenol mixes. Some of the results of his discussion were as follows. Properly manipulated, amalgam is a very effective restorative material. At the present time silicate cement is superior to resins in overall quality. Zinc oxide and eugenol, with additives to increase its strength, may be used for cementation of crowns and fixed bridges.

Following the afternoon sessions a Social Hour was held to enable members of the various Societies to become better acquainted. Dr. Howard Oliver, President of the Montreal Dental Club, chaired the dinner which followed.

Dr. Thibault, President of the Société Dentaire de Montréal, was chairman of the evening session which began at 8.00 P.M. Dr. Phillips continued with his evaluation of materials, and at the same time pointed out some of the failures of these materials. He covered impression materials, die materials and investment plaster. Hydrocolloid is still the most accurate impression material, but



From left to right: Dr. A. J. Colle, member of the Executive of the M.J.D.M.; Dr. J.-P. Lussier, vice-dean of the Faculty of Dental Surgery, University of Montreal; Dr. R. Phillips; Dr. Howard Oliver, president of the Montreal Dental Club; Dr. J. McCutcheon, Dean, Faculty of Dentistry, McGill University; Dr. Daniel Steinberg, President Mount Royal Dental Society; Dr. Marc Thibault, President Société Dentaire de Montréal.

rubber base materials have sufficient accuracy provided the die is poured immediately after the impression is taken. Silicone materials have a poor shelf life and must be watched in this regard.

On behalf of the members present, Dr. Thibault thanked Dr. Phillips for his most informative and up-to-date talk.

Once again the Joint Dental Meeting was a great success thanks to committee members of the three Dental Societies. The appreciation of the members was indicated by the large attendance at the meeting.

The regular monthly meeting of the Montreal Dental Club was held at the Queen's Hotel on Monday March 21, 1960. Dr. W. J. Johnston, President-elect of the Club was in the chair due to the necessitated absence of our President, Dr. Howard Oliver.

Club members voted unanimously to accept the applications of three candidates for membership. The new members are Dr. V. B. Griffiths, Dr. P. Guilbault and Dr. O. P. Sykora.

Dr. J. J. McCarthy introduced our guest speaker for the evening, Dr. H. J. Hickey, Chief of the Oral Surgery Department of St. Joseph's Hospital, Syracuse, New York. Dr. Hickey presented an illustrated talk on "Oral Surgery and the General Practitioner." While some of the operations outlined were beyond the scope of most general practitioners, I am sure that all members benefited from the presentation. Dr. R. McMahon on behalf of the Club members present thanked Dr. Hickey for his well illustrated discussion of this often difficult phase of Dentistry.

J.D.F.

Montreal Chapter Alpha Omega Fraternity

On Thursday, February 18th, 1960, a panel discussion and dinner were held at Ruby Foo's restaurant in Montreal. The topic for the evening was "The operation of a successful Dental Practice". The panel consisted of Doctors Bob Cohen, Harry Skurnik, Fred Vosburg and was moderated by Dr. George Silver.

Dr. Silver introduced the topic with a discussion of the personal qualities that a dentist should develop in his relationship with patients. Dr. Fred Vosburg described what constitutes a desirable office layout with optimum utilization of instruments and equipment. This topic was well illustrated by means of Kodachrome slides of his own office arrangements. Dr. Robert Cohen outlined the contribution of auxiliary personnel towards the development of a successful practice. Reference was made to his own orthodontic practice where several nurses and technicians are employed to maximum advantage. Dr. Harry Skurnik brought the discussion to a focus by his interpretation of the criteria by which one can measure success in dentistry.

The talks were followed by a question and answer period. The panel was thanked for its excellent presentation by Dr. Herbert Hops.

Montreal Alumni Chapter Alpha Omega Fraternity

The final scientific meeting of Alpha Omega Fraternity Montreal Alumni Chapter was held at the Jewish General Hospital on Thursday March 24th at 8:30 P.M. The eminent prosthodontist Dr. Charles H. Moses of Toronto, Ont. spoke on "The Prevention of Denture Problems Before and After Insertion".

Dr. Moses discussed the basic philosophy behind sound denture prosthesis. This included applied anatomy and physiology; the theory and practice of impression taking; the theory and practice of bite registrations and of occlusion; the making of metal cutters for greater efficiency; a discussion of psychosomatics and the handling of disturbed patients; prevention of sore spots and, finally, equilibration of occlusion in the mouth.

Dr. Moses was introduced by Dr. Leonard Druckman and thanked by Dr. Ernest Burman.

This was followed by a limited enrollment post-graduate course given by Dr. Moses in Full Denture Prosthesis. This course was under the chairmanship of Dr. Morton Greenblatt and Dr. George Silver.

M.G.

SASKATCHEWAN

Moose Jaw Dental Society

The February Meeting of the Moose Jaw Dental Society was held at the Grant Hall Hotel. Elections for the 1960 executive were held. Elected were: President, Dr. Gordon G. Beesley; Vice-President, Dr. Lloyd M. Miller; Secretary, Dr. Wil Cotter, and Public Relations, Dr. Ernest E. Eades.

Details for the forthcoming Biennial Convention of the College of Dental Surgeons of Saskatchewan, to be held at the Grant Hall Hotel, Moose Jaw, May 22, 23, 24, were discussed. Dr. Hollis Askey of Lincoln, Nebraska is the Clinician. He will speak on "Practice Management" and "Filling Materials".

Executives for the convention are: Convention Chairman, Dr. Ted Bradley; Treasurer, Dr. Lloyd M. Miller; and Secretary, Dr. Fraser Muirhead, 441 Main St. N., Moose Jaw, Sask.

All replies concerning the convention are to be directed to the Convention Secretary.

A good Ladies program is included, to keep them occupied while their husbands are at lectures.

Saskatoon Dental Society

The visit of the Secretary Dr. D. Gullett was again a highlight of the activities for the year. The members regretted the sudden bereavement to the family of the President, Dr. Wm. McIntosh, in the loss of his father and extend their sincere sympathy.

Dr. Gullett spoke to the Saskatoon Society on the very major problems confronting the Dental profession in the various provinces. He spoke of the transition that is occurring in the world today in regards to health services. He presented an illustrated lecture on Dental Statistics which were very revealing, and he indicated the good fortune of the C.D.A. in procuring the services of such an outstanding person as a Dental Economics Director.

In sincere appreciation for the leadership, advice, and assistance given to the Saskatchewan Dental Council, the President of that body, Dr. Oliver Brett, made a presentation to Dr. Gullett.

L.D.H.

GENERAL NEWS

Fate of Forand Bill This Session is Still Uncertain—ADA States Opposition to Controversial Measure

The Forand bill which still is bottled up in a House committee continues to be one of the most controversial pieces of social legislation on the Washington scene. The Eisenhower administration had decided, as Sec. Arthur S. Flemming of Health, Education and Welfare, said to "oppose any program of compulsory health insurance." Rep. Aime J. Forand (D., R.I.) has strong labor backing for his bill to provide medical and hospital care for persons eligible to receive social security benefits. Forand estimates his program would cost the nation \$1,120,000,000 the first year. Republican members of the House Ways and Means Committee considering the bill place the cost at \$2 billion the first year and \$6 to \$7.5 billion a year thereafter.

ADA spokesmen met with HEW officials earlier this month to express the Association's opposition to the so-called Forand type of legislation. The Association also has requested an opportunity to testify before the Senate committee that is planning to begin hearings soon on similar legislation. The American Medical Association and the AFL-CIO's committee on political education (C.O.P.E.) are engaged in a running argument over the Forand bill that is being reported extensively by news media. AMA has demanded the AFL-CIO retract a series of allegedly "scurrilous" charges contained in a political memorandum released by the C.O.P.E. committee Feb. 1. The union had charged the AMA traditionally has opposed many health measures that were for the good of the public. In Congress, Republican leaders feel that a great deal more information is needed before any program of medical care for the aged should be enacted. They believe it would be desirable to hold off such legislation until the White House Conference on Aging is held in Washington, D.C., next Jan. 9-12. Meanwhile, Forand is attempting to force his bill out of the Ways and Means Committee and onto the House floor in the event the committee votes against it. To do this, he must line up sufficient support for a discharge petition. Labor spokesmen indicate that, so far, they

do not have sufficient votes to do this. Signatures of 219 House members are needed to discharge the bill.

ADA President Announces \$50,000 Gift to Fund

Dr. Paul H. Jeserich president of the American Dental Association and Dean of University of Michigan School of Dentistry, recently announced that the American Dental Association is making a \$50,000 contribution in support of dental education through the Fund for Dental Education. Speaking at a luncheon for leaders in the dental industry during the Greater New York Dental Meeting, Dr. Jeserich described the ADA action in making this contribution as "an investment in the second century of progress and growth of organized dentistry in the U. S."

The grant, he explained, is to be divided between the Fund and the American Association of Dental Schools and used to advance programmes of dental education with which they are charged.

Cold Virus

Dr. C. H. Andrewes, director of Britain's Common Cold Research Unit, says British scientists have isolated the virus that causes the common cold and have grown it outside the human body. He calls the achievement an entering wedge in the drive to find a cure for colds.

American Association of Dental Schools Holds 37th Annual Session

The American Association of Dental Schools held its 37th Annual Session in Chicago on March 20-23 with more than 750 persons in attendance. Dean Robert W. McNulty, President of the Association, presided at the Chicago meeting. Dean Raymond J. Nagle, New York University College of Dentistry, was installed as President for 1960-61;

Dean Lester W. Burket, University of Pennsylvania School of Dentistry, was chosen as President-Elect; and Dean George W. Teuscher, Northwestern University Dental School, was named Vice-President. Dean Paul H. Jeserich, University of Michigan School of Dentistry, was elected to membership on the Executive Council of the Association, term expiring in 1964.

The Association also nominated Dr. Raymond J. Nagle and Dr. Harry Blechman, New York University College of Dentistry, for membership on the Council of Dental Education and the Council of National Board of Dental Examiners of the American Dental Association, respectively. Dr. Ned B. Williams, University of Pennsylvania School of Dentistry, was elected to represent the Association on the Council of the American Association for the Advancement of Science, and Dr. Lester W. Burket was named as Association representative to the Council on Medical Television.

Dr. Thomas J. Hill, Professor Emeritus, Western Reserve University School of Dentistry, was elected to Honorary Membership in the Association. Dr. Hill, a noted dental educator and researcher, is presently chairman of the Council on Dental Research of the American Dental Association.

Five dental schools were elected to Provisional Membership, a membership category for those schools which have not yet graduated their first class of dentists. These schools are:

Fairleigh Dickinson University School of Dentistry
Seton Hall University College of Dentistry
West Virginia University School of Dentistry
University of Manitoba Faculty of Dentistry
University of Puerto Rico School of Dentistry.

A planning committee to begin preparations for a Teaching Institute was authorized. The planning committee is to hold its first meeting in the very near future with the view to conducting the first Teaching Institute in 1961.

The Association also adopted a resolution proposing a series of regional workshops and a national conference for the study and formulation of tests and evaluation devices which would assist in identifying the social and psychological characteristics desirable in a candidate for dental school or in a dental student.

The 1961 Annual Session of the Association will be held in Boston on March 26-29 at the Statler Hotel. Additional information regarding the Association can be obtained from Mr. R. H. Sullens, Secretary (480 North Lake Shore Drive, Chicago 11).

Children Should Not Be Denied Benefits Of Controlled Fluoridation

The informed must share blame with the uninformed for the lag in fluoridation of community water supplies.

This charge against supporters of fluoridation — the informed — is leveled in an editorial in the February issue of *The Journal of the American Dental Association*.

The editorial points to the "great disservice" being done American children by a "small, militant, and, for the most part, demagogic group which utilizes unscientific arguments to influence communities against fluoridation."

However, all the blame for the lag in fluoridation cannot be pinned on opponents of the measure, the publication continues.

Supporters are accused of not having worked hard enough to bring about adoption of fluoridation. Says the editorial:

"The time has come when proponents of fluoridation — the great army of dentists, physicians and public health workers — must become as aggressive in promotion of the measure as opponents have been in seeking its suppression."

The Association affirms its faith in the wisdom of communities which have been fully informed of the benefits of fluoridation. The responsibility of informing communities so that they will "act wisely" on fluoridation rests with the health professions, according to the editorial.

Association criticism of supporters as well as foes of fluoridation was occasioned by recent remarks of Sec. Arthur S. Flemming of Health, Education and Welfare decrying the apparent lag in adoption of the measure.

Although fluoridation is being adopted each year by more communities, Flemming said the increase in the number of people drinking fluoridated water lags substantially behind the increase in urban population.

If the trend continues, the secretary warned that "a rapidly increasing number of children in this country will be deprived of safe, effective and inexpensive protection against one of the most widespread diseases — tooth decay."

Flemming cited statistics showing that the nation's urban population has increased since 1956 by about 7,500,000 persons, while the number drinking fluoridated water during this period has increased by only 4,200,000.

The secretary concluded:

"I believe that if all the facts are known, the great majority of people in all urban areas will conclude that their children and their children's children should not be denied the proved health benefits of controlled fluoridation."

IN MEMORIAM

Angus Joseph Kennedy — Dr. Angus Joseph Kennedy of Toronto, died on February 28th. He was 78.

Born in Caledonia, Dr. Kennedy graduated from the Northwestern University, Chicago in 1906 and from the R.C.D.S. of Ontario in 1916. For the first ten years he practised in the United States and later in Brantford and then Toronto.

During the First World War Dr. Kennedy served with the R.C.D.C. and the Royal Flying Corps. He was an active member of the Knights of Columbus for many years.

Surviving are his son, Dr. Angus Kennedy, and a sister, Mrs. W. Barnes.

George Joynt — Dr. George Joynt of Toronto, died on March 11th in Western Hospital. He was 65.

Dr. Joynt was born in Huron County in 1895. He graduated from the R.C.D.S. of Ontario in 1920. He was a member of the Academy of Dentistry Toronto, the O.D.A. and the C.D.A. for many years.

Surviving are his widow, Elma; a daughter, Mrs. W. Clayson, a son, Dr. L. Joynt, and two sisters, Mrs. J. McMichael and Beatrice Joynt.

Ralph Gordon Harris — Dr. Ralph Gordon Harris of Wabasso, Florida, died on March 8th. He was 59.

Dr. Harris was born in Hamilton in 1900. He received his early education in Hamilton and graduated from the R.C.D.S. of Ontario in 1922, and set up practice in Toronto, where he remained until his retirement in December 1959.

Dr. Harris was secretary of the American Hospital Association Committee on Dental Care and Internships in Hospitals in 1939; in 1926-27-28 he was vice-president of the Young Men's Canadian Club, and he was also a Mason.

Dr. Harris is survived by his widow, Elda.

George Weir Lyons — Dr. George Weir Lyons of Toronto, died on April 1st. He was 64.

Born in Cheltenham, Ontario, he received his early education in Guelph. He graduated from the R.C.D.S. of Ontario in 1923.

During the First World War Dr. Lyons was a Sapper in the Signal Corps. He was a member of the Canadian Progress Club.

Surviving are his widow, Anna; a son, David, and six sisters.

John Dimery Johnson — Dr. John Dimery Johnson of Victoria B.C., died on March 4th after a lengthy illness. He was 52.

Dr. Johnson was born in Austin, Manitoba and attended the Victoria High School and Victoria College before graduating from the University of Oregon in 1934.

During his college years Dr. Johnson was active in sports and starred particularly in rugby. During the Second World War he was a major with the R.C.D.C. and was stationed in England for two years.

He is survived by his widow, Helen and two sisters, Jean and Kathryn.

George Acheson Pollock — Dr. George Acheson Pollock of Thorold, Ontario died on February 1st. He was 64.

Born in Aurora, Ontario, Dr. Pollock was educated in Aurora and Toronto and graduated from the R.C.D.S. of Ontario in 1920.

Dr. Pollock served in both world wars, going overseas in World War I with the 54th Battalion, and serving as a major for five years in World War II with the R.C.D.C.

He served four years on the Thorold Board of Education, from 1932 to 1935, and was chairman in 1934. He was a member of the C.D.A. and O.D.A. and Niagara Peninsular Dental Association and was also a past master of the Mountain Lodge AF and AM.

Surviving are his widow, Margaret; two daughters, Donna and Gwen; one sister, Mrs. H. Addams; one brother, Harry, and two grandchildren.

Hugh Gerald MacDonnell — Dr. Hugh Gerald MacDonnell of Kitchener, Ontario, died on March 1st. He was 69.

Born at West Lorne in 1890, he graduated from the R.C.D.S. of Ontario in 1916.

He was one of the founders of the Kitchener Sports Association which sparked the movement for the construction of the Kitchener Auditorium in 1944-45. In 1956 Dr. MacDonnell was made honorary president of the association and the first life member. He had been president for the previous eight years until illness forced him to drop his active role. Football was one of his major interests and he helped to organize and was president of several teams.

Surviving Dr. MacDonnell are a daughter, Edith; a sister, Mrs. D. Forbes, and a grandson.

Mumford Joshua Sisley — Dr. Mumford Joshua Sisley of Lake Milton, Ohio, died on April 4th. He was 92.

Dr. Sisley was born in Richmond Hill in 1868 and received his early education in Toronto. He graduated from the R.C.D.S. of Ontario in 1891 and practised in Toronto for over fifty years, until his retirement in 1952.

Dr. Sisley was made an Honorary Member of the R.C.D.S. in 1941. At the time of his death he had been on the Ontario register three years longer than any other dentist.

His hobbies included gardening, lawn bowling and target shooting. He was a former member of the Toronto Canoe Club and was an elder in his church for many years.

He is survived by a daughter, Mrs. J. B. Watson, and a son, Dr. Edgar B. Sisley.

Widmer John Rutherford — Dr. W. J. Rutherford of Vancouver died at Shaughnessy Hospital on February 25 at the age of 84.

He was born in Edgar, Ontario and graduated in 1900 from the R.C.D.S. In 1907 he began practice in Vancouver and retired only a few years ago.

Surviving are a daughter, Mrs. A. Wicks, California; a stepdaughter, Mrs. J. Williamson, England; a sister, Mrs. C. C. Richardson, Newmarket, Ontario; a brother, N. H. Rutherford, Toronto; seven grandchildren and two great-grandchildren.

Charles G. Hartley — Dr. Charles G. Hartley of Los Angeles died on March 17th. He was 76.

Dr. Hartley received his early education in Brantford and graduated from the School of Dentistry of the R.C.D.S. He went to Germany where he became dental surgeon to Kaiser Wilhelm II, and practised there until 1917.

Surviving are his widow, two sons and a daughter.

George Selby Paul — Dr. George Selby Paul of Toronto, died on February 25th. He was 61.

Dr. Paul received his early education at Stratford and graduated from the R.C.D.S. of Ontario in 1925 and set up practice in Toronto.

Dr. Paul was a former member of the British Empire Legion and an R.A.F. pilot 1917-1918.

Surviving are his widow, Florence, and two brothers, Dr. R. T. Paul and R. J. Paul.

Hilliard McCauley Code — Dr. Hilliard McCauley Code of Toronto, died on January 31st.

Dr. Code was born in Havelock, Ontario and received his early education in Toronto. Following graduation from the R.C.D.S. of Ontario in 1921 he set up practice in Toronto. He was a Scottish Rite Mason.

Surviving Dr. Code are three sisters, Grace, Muriel and Edith, and one brother, V. V. Code.

Myer C. Kobrinsky — Dr. Myer C. Kobrinsky of Winnipeg, died on March 26th. He was 56.

Born in Russia in 1904, Dr. Kobrinsky graduated from the Chicago College of Dental Surgeons in 1931.

Dr. Kobrinsky is survived by his widow, Jeanne; a son, Captain Sam, a dentist in the U. S. Army; a daughter, Shirley; three brothers, Louis, Tubber and Taffy, and three sisters, Mrs. R. Kesten, Mrs. M. Koman and Mrs. A. Cohen.

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1960	Ottawa, Ontario	Sept. 25th-28th
1961	Saskatoon, Saskatchewan	June 4th-7th
1962	Vancouver, British Columbia	June 3rd-6th

1967	Toronto, Ontario	May
	(Centennial Celebration of Dentistry in Canada)	

FUTURE EVENTS

Date	Function	Location	Officer	Address
May 22, 23, 24, 1960	College of Dental Surgeons of Saskatchewan Biennial Convention	Moose Jaw, Sask.	Dr. F. Muirhead,	441 Main St. N., Moose Jaw, Sask.
June 4-7, 1960	Western Canada Dental Society Convention	Bessborough Hotel, Saskatoon	Dr. N. F. Groppe,	704 Canada Bldg., Saskatoon, Sask.
June 5-8, 1960	First Atlantic Provinces Dental Convention	Admiral Beatty Hotel, Saint John, N.B.	Dr. A. D. Bona,	82 King St., Saint John, N.B.
July 10-14, 1960	Eleventh Triennial Pacific Coast Dental Conference	Portland, Oregon	Dr. K. R. Jensen, Secretary,	1033 S.W. Yamhill St., Portland 5, Oregon
Aug. 14-18, 1960	16 Australian Dental Congress	Sydney, New South Wales	Dr. D. Freeman, Hon. Sec.,	185 Elizabeth St., Sydney, New South Wales, Australia.
Sept. 9, 10, 1960	Northern Ontario Dental Association Convention	Coulson Hotel, Sudbury, Ont.	Dr. G. P. Copeland,	47 Davidson St., Sudbury, Ont.
Dec. 5-9, 1960	36th Annual Greater New York Dental Meeting	Statler Hilton, New York City	Mrs. M. Purdy,	Room 106A, Hotel Statler Hilton, New York 1, N.Y.

TEMPLE UNIVERSITY POSTGRADUATE DIVISION

Participation Course in Clinical Endodontics — Oct. 31, Nov. 1, 2, 3, 4, 5, 1960.

Enrolment limited to 10—Tuition \$175.00.

For further information write: Dr. Louis Herman, Director, Postgraduate Studies, Temple University School of Dentistry, 3223 N. Broad St., Philadelphia 40, Pa.

OTHER INFORMATION CONCERNING DENTAL MEETINGS OUTSIDE CANADA IS AVAILABLE AT C.D.A. HEADQUARTERS.

L'Association Dentaire Canadienne.

Volume 26

Numéro 5

mai 1960

JOURNAL

Objectifs et évaluation d'un programme local d'hygiène dentaire publique*

par LOMER LEMIEUX, D.D.S., E.E.H.D.P.

Depuis cinquante ans, la science dentaire, comme toutes les autres disciplines scientifiques, a fait d'énormes progrès, mais la connaissance par le public de la valeur d'une bonne denture n'a pas suivi la même évolution. En effet, la maladie de la carie dentaire cause d'effroyables ravages dans la province de Québec et elle constitue un problème majeur de santé.

Alors que les autres maladies ont fait l'objet de vastes campagnes de prévention et sont actuellement en régression, la carie des dents n'est que depuis peu le souci des hygiénistes. Ceux-ci, afin de préserver la santé de la population, sont maintenant d'accord pour considérer la dentisterie comme une nécessité vitale. On peut même dire que la prévention en hygiène dentaire a pris une place d'importance dans l'amé-

lioration de la santé publique durant ces dernières années.

Cependant, dans certains milieux, on croit encore que seuls les soins curatifs et les cliniques dentaires d'extractions sont utiles et nécessaires pour combattre et améliorer l'état lamentable des bouches infectées. Cette façon de juger fait penser à une quarantaine sévère qu'on voudrait établir à la suite d'une épidémie de fièvre typhoïde qui serait causée par un lait contaminé, mais sans aucun effort dirigé contre la livraison du lait dangereux.

L'expérience prouve que l'extraction massive des dents ne peut résoudre le problème dentaire. Nous avons le devoir, comme hygiénistes, de corriger cette erreur qui persiste dans la population. La carie dentaire est une maladie différente qui peut causer des troubles locaux et organiques très graves. Je pense ici aux conséquences de ces foyers infectieux étudiés par d'éminents médecins tels que

*Séminar présenté à l'Ecole d'Hygiène de l'Université de Montréal, le 28 janvier 1960.

Hunter et Billings, et je cite: "foyers qui peuvent, par des causes déterminantes, susciter une septicémie se traduisant, parfois, par une endocardite bactérienne aiguë, une ostéomyélite, une arthrite suppurante, un abcès rénal, et une grande variété de troubles organiques."

Comme pour les maladies épidémiques, son contrôle doit se faire au niveau de l'hygiène publique, c.-à-d. par la prévention. En face de ce grave problème, le rôle du dentiste dans un service de santé publique est défini clairement par le professeur William J. Gies de l'Université de Colombia qui fut choisi en 1921 pour faire une enquête sur l'éducation dentaire aux Etats-Unis et au Canada. Le professeur, dans son Bulletin publié en 1926, écrivait: "La dentisterie constitue une branche importante du Service de Santé concernant directement les dents et les tissus adjacents de la cavité buccale et indirectement

les autres parties de l'organisme. La dentisterie, par la qualité et l'efficacité des services qu'elle rend au patient, doit être élevée au rang d'une spécialité buccale de la pratique de la médecine." Et Strusser définit ainsi la dentisterie du Service de Santé publique: "C'est un effort scientifique, opératif et éducatif qui a pour but la prévention et le contrôle de la maladie dentaire "au sein de la communauté."

On peut donc décrire la pratique dentaire comme un vrai service de santé capable de réaliser, dans les cadres d'un programme local d'hygiène dentaire bien défini et adapté à la communauté concernée, selon des directives établies, des objectifs précis, basés sur des principes d'hygiène publique qui permettront d'en évaluer l'efficacité.

Les services d'hygiène dentaire et leurs fonctions s'établissent ou devraient s'établir ainsi dans la province de Québec:

LA DENTISTERIE DES SERVICES DE SANTÉ PUBLIQUE

		Titulaires	Responsabilité	Rôle	Moyens d'action
MINISTÈRE de la SANTÉ	Section dentaire (Division)	D.H.D.P. Officier dentaire régional	Au Directeur de la Division dentaire	Education professionnelle Administration régionale	Sociétés d'adultes
		Dentiste-clinicien	Programme: à l'officier dentaire régional Administration: à l'officier médical	Education, Prévention, Traitements (parmi la population écolière)	Cliniques, examens et prophylaxie (2 jrs) Cliniques de traitements (3 jrs)
	Unité sanitaire	Médecin-hygiéniste ou Officier médical		Education	Examens scolaires Fiches au dossier
		Educ.-hyg.		Education	
		Inf.-hyg.		Education	
		Infirmière		Revue périodique	
		Ass.-dent.	Clinicien-dent.	Cliniques-dent.	
Collège des Chirurgiens-Dentistes	Ligue d'hygiène dentaire	Dentistes-hygiénistes	à la Ligue	Education des adultes. Propagande	Sociétés d'adultes
	Dentistes-praticiens			Education, Prévention, Traitements	Prophylaxie, Obturations, Extractions, Prothèse.

LES DONNÉES DU PROBLÈME DE SANTÉ DENTAIRE

Pour définir les objectifs d'un tel programme, la connaissance des données du problème de santé dentaire, dans un territoire limité, est essentielle. Le dentiste responsable de ce programme d'hygiène dentaire aura à faire face à de nombreuses difficultés dans son application. Logiquement, comme point de départ, il devra mesurer les besoins de la population en raison des deux principales phases de l'élaboration d'un programme: la prévention ou le contrôle des maladies dentaires et l'administration ou l'organisation de ses activités. Il devra prévenir aussi les difficultés qu'on lui fera et qui ont toujours comme origine une éducation plus ou moins pauvre. Voici quelques exemples: la peur du dentiste, peur excessive et irraisonnée chez certains enfants qui, par manque de traitements précoces, ont été "mal partis", comme on dit communément; le refus des parents de faire traiter leurs enfants, traitements pourtant minimes à comparer aux ennuis coûteux qui résultent de dents négligées, de la perte des dents et leur remplacement par des dentiers. L'étude des difficultés peut faire varier les méthodes utilisées pour réaliser les objectifs. L'aspect du problème peut sembler à peu près le même partout, il y a cependant des difficultés propres à une région. On admet généralement que les problèmes de santé dentaire dans un milieu rural sont largement différents de ceux qui existent dans un milieu urbain, mais il faut en tenir compte. Ainsi dans un comté rural, moins peuplé et plus grand qu'un autre, les facilités de fournir les services dentaires seront moins grandes à cause des distances à parcourir. Dans une petite ville de comté, il sera peut-être plus difficile de stimuler l'intérêt sur la question dentaire à cause de l'indifférence de certaines autorités médicales et civiques en face d'un programme d'hygiène dentaire. Il faudra user de persuasion auprès de groupes représentatifs et organiser des campagnes publicitaires de concert avec les organismes de santé.

Ce sont là des problèmes qui se rattachent à la maladie même de la carie dentaire et qui feront changer les moyens à prendre pour atteindre les buts proposés. Ainsi, dans une région, parce que les gens ne sont pas prêts à accepter les traitements, soit par ignorance ou par préjugés, il sera préférable de se limiter à un minimum d'activités et de commencer plutôt à faire surtout de l'éducation.

Dans la planification d'un programme de santé dentaire, on devra choisir les méthodes qui conviennent aux exigences des problèmes locaux, mais il faudra aussi analyser l'état du programme existant. On devra faire l'inventaire de ce qui se fait dans la région, vérifier les objectifs du programme en cours et évaluer les ressources disponibles. De même on devra tenir compte du personnel; ce qui en somme constitue une partie du budget alloué pour un comté.

LES OBJECTIFS PROPOSÉS POUR RÉSOUDRE CE PROBLÈME

Un programme local d'hygiène dentaire ne doit pas être considéré comme une entité à part dans un service de santé. Au même titre que toutes les autres organisations dont le but est de protéger la santé de l'individu, il doit avoir pour principe l'éducation et la prévention. C'est à cette condition que "la clinique dentaire" sera située en place logique dans le programme général d'hygiène publique, qu'elle aura une réelle valeur au point de vue santé publique et qu'elle pourra s'adapter aux besoins particuliers d'une population. Le dentiste-clinicien fait partie d'une équipe avec laquelle il doit coopérer à la santé publique et n'est pas seulement le titulaire d'un service de traitements. La clinique dentaire, même par les soins curatifs qu'elle procure, doit tendre à un but éducatif de manière à promouvoir la conservation des dents et à attirer l'enfant. Absolument rien ne doit être fait ou dit qui n'ait une valeur éducative. Autrement le public sera toujours sous l'impression que l'extraction des dents est la principale fonction du dentiste.

L'éducation en matière de santé dentaire vaut certainement en raison de l'action concertée de tous ceux qui s'occupent d'hygiène. L'éducation est à la base des activités. C'est un travail d'équipe qui s'étend bien au-delà et devient la responsabilité de tous ceux qui sont intéressés à l'hygiène maternelle et infantile, scolaire et préscolaire. Cependant, sans diminuer l'importance des services que peuvent rendre le médecin-hygiéniste, l'infirmière-hygiéniste, le dentiste-hygiéniste, la part de l'éducation en santé dentaire réservée au dentiste-clinicien, dans un service local d'hygiène dentaire, est de beaucoup la plus importante. En hygiène, et surtout en hygiène dentaire, il y a bien des motifs qui empêchent la bonne parole de se transmettre; par contre, le dentiste-clinicien dispose des moyens de prévention les plus directs: la clinique d'examen et de prophylaxie et les soins curatifs au service des enfants.

La prophylaxie avec le tour portatif en particulier est possible maintenant dans la plupart des écoles et est nécessaire comme moyen de promouvoir l'hygiène de la bouche, d'attirer l'enfant et l'habituer aux traitements dentaires. Ajoutons que ces cliniques devraient toujours être précédées ou suivies d'une petite causerie d'une dizaine de minutes.

Ces moyens de prévention donnent au programme une portée plus objective et partant des résultats plus précis. Il semble généralement admis que le dentiste-clinicien, au cours d'une semaine, devrait faire deux jours de cliniques d'examen et de prophylaxie dans les écoles et trois jours de cliniques d'obturations et de traitements à l'unité sanitaire. Il va sans dire que ce programme nécessite un dentiste-clinicien à temps complet dans chaque unité sanitaire. On prendra comme principes d'action: éducation et dépistage en vue de la prévention et du traitement précoce de la carie et de la gingivite. L'expérience prouve que l'éducation directe sur la santé dentaire dispensée au fauteuil dentaire avec un miroir porte beaucoup plus de fruits que celle faite avec des notes de conférence dans les mains.

Lorsque le dentiste-clinicien, après avoir fait une bonne prophylaxie, examine attentivement la bouche d'un enfant, en présence de ses parents, il a tout ce qu'il faut pour faire de l'hygiène dentaire d'une manière tout à fait profitable. D'une part, la bouche de l'enfant avec ses anomalies, et de l'autre, le père ou la mère qu'il doit convaincre de l'importance du traitement approprié dans chaque cas. Il doit en profiter pour donner des conseils judicieux et pratiques sur l'importance de la santé dentaire, la santé en général et l'apparence d'une bonne denture, sur la pratique des soins dentaires, sur la valeur d'une bonne nutrition en rapport avec la calcification.

Certains parents indifférents portent peu d'attention aux recommandations du dentiste; d'autres manquent d'intérêt; ne veulent même pas se présenter à la clinique.

Il y a parfois un manque de rapport entre l'éducation dentaire des parents et celle des enfants. On peut tout de même se consoler en se disant que les efforts qui sont faits pour éduquer l'enfant ne sont jamais tout à fait perdus.

Il en restera toujours quelque chose pour la vie. Mais ce qu'il faut souligner c'est le beau champ d'action que les infirmières peuvent exploiter dans le domaine dentaire pour unifier les efforts d'éducation de l'adulte et de l'enfant. Leur rôle auprès du dentiste consiste surtout à seconder son travail au moyen de la surveillance-contrôle ou la revue périodique dentaire. Elles devront, à l'occasion d'une visite à domicile, vérifier, contrôler les recommandations du dentiste, s'enquérir de l'attitude des parents au sujet du rapport de l'examen du dentiste et faire, s'il y a lieu, l'éducation des parents à ce sujet. Aussi pour assurer ce lien dans l'éducation dentaire entre la famille et l'école, on aura raison de ne pas s'en tenir exclusivement aux économiquement faibles et d'accepter, aux cliniques de traitements, les enfants de parents qui, par manque d'éducation, s'obstinent à refuser de mettre en pratique les recommandations faites par le dentiste lors des cliniques d'examen.

Selon les normes de l'Organisation Mondiale de la Santé, la tâche la plus importante d'un service d'hygiène dentaire publique, c'est l'éducation de la population: enseigner au public les principes fondamentaux d'une bonne nutrition et tous les autres principes qui ont pour objet la prévention des désordres d'origine dentaire.

On a pris beaucoup de temps à réaliser l'importance de la santé dentaire et sa contribution à la santé générale. En fait, si les professions qui ont intérêt à la santé publique ont commencé à l'apprécier, le public ne le réalise pas encore entièrement. Le fait de n'avoir pas encore trouvé de remèdes faciles retarde le développement des programmes de santé dentaire. Certains parents semblent attendre que les dentistes leur prescrivent un médicament qui fera disparaître la carie du jour au lendemain. Est-ce l'idée facilement répandue que l'immunité des maladies épidémiques est obtenue par la vaccination ou l'innoculation? Cette maladie n'est pas une maladie à virus. Une bonne denture est rendue possible par une bonne nutrition et des traitements précoces. Elle permet une mastication complète indispensable à une bonne digestion et à une bonne assimilation. Quand Napoléon disait qu'une armée marchait sur son estomac, il songeait sans doute à une bonne denture.

Il importe à tous ceux qui ont charge de la santé publique de se familiariser avec les objectifs peut-être idéalistes et que nous appelons "à long terme" dans un programme d'hygiène dentaire: développer un système dentaire normal et le protéger contre la carie, prévenir et circonscrire les maladies dentaires, créer chez l'enfant de saines habitudes d'hygiène dentaire, encourager la conservation de la denture naturelle, viser à faire reconnaître par la population l'importance des problèmes de santé dentaire, aider à l'élaboration de mesures à prendre pour leur solution et convaincre tous et chacun de prendre ses responsabilités.

Pour réaliser ces objectifs à long terme,

il faut des objectifs intermédiaires. Il faudra concrétiser ce qu'on peut appeler une conception vraie et juste du problème dentaire. Voir, par exemple, à ce que chaque enfant visite le dentiste une fois par année. On aurait comme objectif de réduire la prévalence de la carie en fournissant des traitements dentaires aux enfants disons de cinq ans à neuf ans.

Mais, il faudra aussi définir clairement, en termes spécifiques, des objectifs encore plus immédiats. Prenons pour exemple un programme d'éducation concerté, soit une journée dentaire organisée dans un comté. On fait de la propagande par l'entremise des journaux et de la radio; les associations et les différents cercles d'étude sont mis au courant à l'avance; les dentistes praticiens sont invités à participer en faisant les examens dans les écoles; les infirmières de l'unité sanitaire assistent aux examens et font de l'éducation, enfin, suivant un programme bien élaboré, tous participent à cette journée d'éducation dentaire qui peut se répéter de comté en comté et devenir un projet provincial à chaque année.

Les méthodes permettant de rendre effectif un objectif immédiat comme celui-ci doivent être étudiées attentivement. On devra identifier, analyser et coordonner les besoins et les difficultés propres à un territoire limité. Les conseils de l'association dentaire locale nous seront utiles de même que l'on devra tenir compte de l'avis du public exprimé par ses représentants ou les divers organismes.

Selon les possibilités et en tenant compte des besoins plus pressants de la population, on devra tendre à fournir le plus tôt possible des soins curatifs. Nous disposons, en effet, en hygiène dentaire publique, d'une arme très efficace qui donne des résultats immédiats: l'éducation directe basée sur les principes de la pédodontie. A l'occasion des traitements dentaires, il est relativement facile d'intéresser l'enfant, lui donner l'orgueil du développement normal de son système dentaire et ce qui compte le plus: s'en faire un ami. Il est prouvé que l'enfant bien éduqué au

fauteuil dentaire nous fait un bon patient et fera certainement plus tard un bon éducateur. Il importe donc de prendre contact direct avec l'enfant et l'intéresser à une chose qu'il connaît mal ou pas du tout. Malgré l'incompréhension des parents sur les disciplines d'hygiène dentaire (modification des méthodes d'alimentation, régime alimentaire balancé, restriction des sucres, etc.); malgré l'incompréhension de la valeur d'une bonne denture par les parents qui portent des prothèses dont ils se disent satisfaits, malgré enfin les conditions pécuniaires de certains parents qui ne peuvent faire les sacrifices nécessaires pour la santé dentaire de leurs enfants, ces enfants qui auront été bien éduqués au fauteuil dentaire, prépareront une génération plus compréhensive des problèmes dentaires.

PRINCIPES D'EFFICACITÉ D'UN PROGRAMME

Un programme couvre un si grand champ d'action qu'il est difficile de donner toutes les méthodes qui nous permettront de l'évaluer en raison de l'avenir. L'hygiène publique a quand même des moyens qui la renseignent sur ses progrès.

En premier lieu, il faut juger un programme avec un esprit critique. Se demander si les objectifs proposés sur l'éducation dentaire sont adéquats et spécifiques. Les objectifs de santé dentaire sont-ils en relation avec les autres services de santé? Sont-ils bien définis et adaptés à la population concernée? Est-il possible d'atteindre ces objectifs? Après un certain temps, il sera peut-être préférable, suivant l'analyse des résultats obtenus, de changer les méthodes d'action.

On peut aussi juger de l'efficacité d'un programme local par les renseignements objectifs compilés par l'officier dentaire régional, par la qualité des services cliniques et éducatifs rendus par le dentiste-clinicien et par la qualification de ce dernier.

A la lumière des renseignements objectifs obtenus, il sera possible à l'officier dentaire régional de planifier un programme local. Il pourra contrôler la surveillance dentaire conduite par le médecin.

Pour ce faire, il devra créer un système de fiches d'observations définies qui permettront d'établir des diagnostics précis et surtout donneront une image fidèle du travail accompli par le dentiste clinicien. Ces fiches permettront aussi une étude statistique des problèmes spécifiques liés avec la maladie dentaire et de tirer certaines conclusions sur les déviations de la normale pour ensuite tenter de les éliminer.

Une partie de la fiche dentaire remplie en double peut être attachée au dossier de l'élève avec celle de l'examen scolaire remplie par le médecin, pour son information. L'infirmière pourra y référer au cours de l'examen périodique.

On jugera le dentiste-clinicien non par la quantité mais par la qualité de son travail d'éducation. Nul doute alors que toute l'action éducative et préventive d'un programme local de santé dentaire repose sur la qualification de celui-ci. Il doit être davantage imbu d'un esprit professionnel, aimer les enfants, tendre avant tout au bien-être de son patient, prêt à supporter toute initiative qui a pour but l'avancement de l'hygiène dentaire, capable de donner à chacun les conseils qui s'imposent afin de l'aider à conserver sa bouche en bon état. Il va sans dire qu'il doit posséder en plus de l'habileté, un esprit de compréhension et du tact. Il serait souhaitable, pour accomplir ce rôle, que le dentiste-clinicien suive des cours post-universitaires en pédodontie, en nutrition et en bactériologie buccale.

Le dentiste-clinicien est donc le premier responsable de l'organisation d'un programme local. Son programme préparé selon les normes et directives établies doit être approuvé par l'officier dentaire régional. Au point de vue administratif, le dentiste-clinicien est soumis à l'officier médical de son comté. Dans l'exécution de ce programme, il sera guidé par le dentiste-hygiéniste régional qui l'orientera au besoin et complétera son action par l'éducation professionnelle. Celui-ci exercera ses activités éducatives au sein des associations d'adultes, des professions

médicales, des normaliens, des titulaires de classes, des finissants des couvents et collègues. Le dentiste-hygiéniste d'une région doit faire rapport au directeur de la Section Dentaire du Ministère de la Santé.

Les différentes phases d'un programme d'hygiène dentaire publique sont toutes dépendantes les unes des autres et ont besoin d'être sans cesse revisées et analysées: les problèmes et les besoins de la population, les objectifs et les méthodes employées, les moyens d'évaluation. Au cours de l'élaboration d'un programme, on devra tenir compte de tous ces facteurs à la lumière des rapports et des statistiques, car suivant l'aphorisme cité en statistique: les conclusions que l'on tire

d'un rapport ne sont jamais plus vraies que les chiffres de ce rapport.

Dans une collaboration d'équipe, un tel programme local d'hygiène dentaire aurait une influence salutaire sur la santé de notre population écolière.

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Photographie prise au cours de la deuxième assemblée des Réunions dentaires conjointes de Montréal, qui a eu lieu le 29 février dernier. De g. à d., les docteurs Albert Colle, membre de l'Exécutif, J.-P. Lussier, vice-doyen de la faculté dentaire de l'Université de Montréal, R. Phillips, d'Indianapolis, conférencier, Howard Oliver, président du Montreal Dental Club, James McCutcheon, doyen de la faculté dentaire de l'Université McGill, Daniel Steinberg, président de la Mount Royal Dental Society, Marc Thibault, président de la Société Dentaire de Montréal.

Nombre des étudiants en chirurgie dentaire au Canada

Observations générales

Inscriptions — Les facultés dentaires du Canada ont un total d'étudiants qui dépasse de 82 celui de l'an dernier. Cette augmentation est due surtout à l'ouverture d'une nouvelle faculté à l'Université de Manitoba et au nouvel édifice de l'Université de Toronto. Il y a cinq jeunes filles de moins que l'an dernier. L'inscription des étudiants a augmenté au-delà du niveau des études ordinaires. Le nombre des futures hygiénistes dentaires n'a pas varié dans la seule faculté canadienne qui offre ce cours.

Diplômés — 203 dentistes ont reçu leur diplôme en 1958, mais seulement 193 en 1959. Il ne peut y avoir, dans les circonstances, une amélioration dans la proportion du nombre

des dentistes en rapport avec la population.

Etudiants étrangers — Il y a 10 étudiants de plus qui viennent d'en dehors du Canada. Quarante-six Canadiens étudient aux Etats-Unis, ce qui représente une augmentation de 3. Les facultés dentaires du Canada ont 59 élèves venant des Etats-Unis, soit 9 de plus que l'an dernier.

Disponibilités — Le nombre total des étudiants qui peuvent être acceptés par classe a augmenté de 44.

Déboursés — La moyenne des dépenses que les étudiants doivent effectuer durant leur cours de quatre ans n'a pas beaucoup varié, cette année.

La moyenne des dépenses, sans compter le logement et la pension, s'établit entre \$3,000.00 et \$4,000.00.

Tableau no 1

Inscription des étudiants
Année académique 1959-60

	étudiants ordinaires							autres étudiants				
	1ère année	2e année	3e année	4e année	hommes	femmes	Total	*diplômés	**post-scolaires	***passagers	hygiène dentaire	
											1ère année	2e année
Dalhousie.....	18	12	13	17	58	2	60					
McGill.....	38	34	35	38	138	7	145					
Montréal.....	44	48	34	46	169	3	172		11	1		
Toronto.....	119	93	62	94	351	17	368	10	16	2	8	6
Manitoba.....	24	13			41	1	42					
Alberta.....	36	31	25	27	118	1	119		2	21		
Total.....	279	236	169	222	875	31	906	10	29	24	8	6

*L'expression "étudiants diplômés" signifie les dentistes inscrits à l'Université dans l'Ecole des Diplômés, et qui suivent un cours qui donne droit à un titre.

**L'expression "étudiants post-scolaires" signifie les dentistes inscrits dans une faculté dentaire pour y suivre un cours qui donne droit à un titre ou à un diplôme.

***L'expression "étudiants passagers" signifie les dentistes inscrits dans une faculté dentaire pour y suivre un cours de courte ou de longue durée ne donnant pas droit à un titre ou un diplôme.

Tableau no 2

Relevé des inscriptions des étudiants ordinaires

	1940-41	1950-51	1955-56	1957-58	1958-59	1959-60
Dalhousie.....	31	48	47	53	55	60
McGill.....	58	145	136	141	144	145
Montréal.....	104	196	161	176	178	172
Toronto.....	210	380	310	310	319	368
Manitoba.....					21	42
Alberta.....	51	114	115	107	107	119
Total.....	454	883	769	787	824	906

Tableau no 3
Nombre total des diplômés

	1940	1950	1955	1957	1958	1959
Dalhousie	12	11	13	11	16	17
McGill	13	36	35	29	34	36
Montréal	23	42	19	34	49	40
Toronto	56	168	78	73	75	74
Alberta	13	49	29	34	29	26
Total	117	306	174	186	203	193

Diplômés de 1959**hommes femmes**

Dalhousie	16	1
McGill	35	1
Montréal	40	—
Toronto	68	6
Alberta	26	1
Total	184	9

Tableau no 4
Distribution des étudiants par provinces d'origine et par pays étrangers

	Terre-Neuve	Ile-du-Prince-Edouard	Nouvelle-Ecosse	Nouveau-Brunswick	Québec	Ontario	Manitoba	Saskatchewan	Alberta	Colombie britannique	Etats-Unis	Indes occidentales	Bermudes	Guinée britannique	Hong Kong	Australie	Angleterre	Europe	Autres	Total
Dalhousie	8	1	18	12	3	3	1	1		4	4	1	1	2	2	4	2	1	60	
McGill	1		1	5	52	15	2	5		5	47	9	1	2	2			1	145	
Montréal				159	3	3		2		3	3								172	
Toronto				1	329	6	6	6	6	4				1	11	3	1	1	368	
Manitoba					1	31	5	5	3					1	1			1	42	
Alberta						4	24	63	25	1				1				1	119	
Total	9	1	19	19	212	351	44	42	63	43	59	10	2	3	4	15	5	2	3	906

Tableau no 5

A—Pourcentage des étudiants de chaque province
B—Proportion des étudiants en rapport avec la population de leur province d'origine

Province d'origine	Pourcentage	*Proportion
Terre-Neuve	.99	1/49,889
Ile-du-Prince-Edouard	.11	1/102,000
Nouvelle-Ecosse	2.10	1/37,684
Nouveau-Brunswick	2.10	1/31,053
Québec	23.40	1/23,580
Ontario	38.74	1/16,957
Manitoba	4.86	1/20,114
Saskatchewan	4.64	1/21,476
Alberta	6.95	1/19,730
Colombie britannique	4.75	1/36,512
Canada	88.63	1/19,252
Autres pays	11.37	

*Les chiffres de population sont ceux fournis par l'Office National de la Statistique au 1er juin 1958.
Note: Les étudiants canadiens aux Etats-Unis ne sont pas compris dans ce tableau.

Canadiens inscrits dans des facultés dentaires des Etats-Unis:

Alberta	6
Colombie britannique	19
Manitoba	3
Nouveau-Brunswick	2
Ontario	9
Québec	1
Saskatchewan	6

Total

46

Tableau no 6
Formation prédentaire des étudiants

	2e année	3e année	4e année	Diplôme canadien		Diplôme étranger	
				Bacheliers	Autres	Bacheliers	Autres
Dalhousie.....	19	8	2	22		6	3
McGill.....	24	25	11	45		32	8
Montréal.....	—	—	—	161		10	2
Toronto.....	287	10	5	33	12	15	6
Manitoba.....	13	11	7	10	1	—	—
Alberta.....	82	18	14	5	—	—	2

Tableau no 7
Diplômés possédant le titre de bacheliers

Classe de 1959	Total des diplômés	Diplômes de bacheliers	Pourcentage
Dalhousie.....	17	10	59
McGill.....	36	28	78
Montréal.....	40	40	100
Toronto.....	74	9	12
Alberta.....	26	2	8
Total.....	193	89	46

	Dalhousie	McGill	Montréal	Toronto	Manitoba	Alberta
Les étudiants peuvent-ils obtenir leur baccalauréat au cours de leurs études dentaires, finissant ainsi leurs études avec le diplôme de bachelier et celui de dentiste?.....	oui	oui	non	non	—	oui
Combien d'élèves ont fait de même en 1959?.....	—	6	—	—	—	—

Tableau no 8
Date du début et de la fin des cours

	1959-1960		1960-1961		les élèves de lière année s'inscrivent le:
	Début	Fin	Début	Fin	
Dalhousie.....	Sept. 9	Mai 19	Sept. 7	Mai 15	Mai 30, 1960
McGill.....	Sept. 8	Mai 27	Sept. 7	Mai 26	Mars 1, 1960
Montréal.....	Sept. 17	Mai 31			Juillet 1, 1960
Toronto.....	Sept. 23	Mai 27	Sept. 21	Mai 26	Sept. 1, 1960
Manitoba.....	Sept. 4		Sept. 1		Avril 30, 1960
Alberta.....	Sept. 8	Juin	Sept. 6	Juin	Mai 16, 1960

Tableau no 9
Nombre maximum d'étudiants pouvant être acceptés
en première année dans les différentes facultés

Dalhousie.....	25
McGill.....	38
Montréal.....	60
Toronto.....	124
Manitoba.....	30
Alberta.....	30
Total: Canada.....	307

Tableau no 10

Moyenne du coût des études pour les quatre années

	Dalhousie	McGill	Montréal	Toronto	Manitoba	Alberta
frais de scolarité.....	\$1,680.00	\$2,400.00	\$1,700.00	\$2,200.00	\$1,800.00	\$1,560.00
instruments.....	1,025.00	1,620.00	1,000.00	492.00	1,000.00	1,110.00
volumes obligatoires..	205.00	compris avec les instruments	300.00	200.00	400.00	245.00
fournitures.....	75.00	compris avec les instruments			100.00	compris avec les instruments
divers.....	180.00	compris avec les instruments	346.00	224.00	100.00	compris avec les instruments
total.....	3,165.00	4,020.00	3,346.00	3,116.00	3,400.00	2,915.00
chambre et pension..	2,500.00	*3,000.00	3,000.00	2,560.00	2,200.00	2,340.00

*résidence à l'Université.

Tableau no 11

Aide aux étudiants

	Dalhousie	McGill	Montréal	Toronto	Manitoba	Alberta
Bourses d'études pour les étudiants.....	oui	oui	non	oui	oui	oui
Prêts aux étudiants.....	oui	oui	oui	oui	oui	oui
Bourses d'études pour les diplômés.....	non	non	non	oui	non	oui

Tableau no 12

Inscription d'étudiants possédant des qualifications spéciales

	Dalhousie	McGill	Montréal	Toronto	Manitoba	Alberta
Admission d'étudiants possédant des qualifications spéciales obtenues à l'étranger.....	oui	oui	oui	oui	oui	oui
No d'étudiants ordinaires dans cette catégorie...	8	6	2	20	0	2
No de ces étudiants venant de:						
Australie.....	4			11		
Autriche.....			1			
France.....			1			
Allemagne.....	1			3		
Grèce.....		4				
Hollande.....						1
Hong Kong.....				1		
Hongrie.....						1
Iran.....		1				
Lithuanie.....	1	1				
Pologne.....				1		
Turquie.....				1		
Angleterre.....	2			3		

Sommaire des activités des soi-disant "denturistes"

On ne trouvera dans aucun dictionnaire le mot "denturiste" qui a été créé de toute pièce. On a d'abord vu ces individus à l'oeuvre pour la première fois à Chicago, il y a trois ans, où ils tentaient de faire passer des lois à la Législature d'Illinois. Leurs efforts furent vains. Ces personnages qui se nommaient "denturistes publics" ont néanmoins redoublé d'activité et, au cours de la session 1958-59, ils ont présenté des bills devant les gouvernements de sept Etats des Etats-Unis et de deux provinces canadiennes.

Le but que poursuivent ces "denturistes publics" est d'exercer légalement la prothèse directement pour le public; ils proclament bien haut devant les comités des Législatures qu'ils possèdent les qualifications nécessaires pour ce faire. On peut résumer ainsi leurs activités aux Etats-Unis.

Georgia

Le projet de loi "Loi des denturistes de Georgia" fut présenté à la Chambre en février 1959. Le bill voulait instituer un "Bureau de l'Etat de Georgia des Denturistes" pour accorder des licences aux "denturistes," leur permettant de prendre des empreintes, de confectionner ou de réparer des dentiers complets, à condition toutefois que... "il ne serait pas permis aux denturistes d'exercer la dentisterie pour aucune personne, à moins que cette personne ait en sa possession un certificat de santé buccale qui lui aurait été remis par un dentiste licencié ou un médecin pratiquant."

Le 12 février, à l'unanimité, le Comité d'Hygiène et de la Santé de la Législature de Georgia, composé de 23 membres, rejeta le bill des denturistes, qui était désavoué par l'Association dentaire de Georgia et par l'Association des Laboratoires dentaires de l'Etat de Georgia Inc. Le bill était supporté par un groupe de personnes s'intitulant "L'Association des Laboratoires dentaires indépendants de Georgia".

Nevada

Au début du mois de février 1959, La Législature du Nevada fut saisie d'un bill prévoyant le règlementation et l'octroi de licences aux "denturistes publics". Par ce projet de loi, un "Bureau de l'Etat du Nevada des Denturistes publics" serait créé et ce Bureau autoriserait les denturistes dûment licenciés à réparer, remplacer, reproduire, faire en double ou fournir des

portions brisées ou manquantes de prothèses dentaires amovibles directement à la demande du porteur ou de l'édenté. Le bill de Nevada défendait aux "denturistes publics" de prendre des empreintes... des gencives naturelles édentées".

La Société Dentaire du Nevada et les laboratoires réguliers du Nevada s'opposèrent fermement au bill, qui fut rejeté, après deux séances, par un comité de la Législature.

Washington

Le Parlement de la Législature de Washington reçut un projet de loi des "denturistes" le 19 février 1959. Ce bill aurait permis aux "denturistes licenciés de... confectionner, modifier et réparer des appareils de prothèse amovibles directement pour le porteur, à condition que les empreintes des maxillaires ou de la bouche aient été prises par un dentiste licencié". On remarque que dans ce bill de Washington, il y avait une clause qui exigeait que les empreintes soient prises par des dentistes et une autre qui spécifiait que les "denturistes" recevraient leur licence du Bureau dentaire existant plutôt que d'un nouveau Bureau autonome et spécialement créé pour ce faire.

L'Association dentaire de l'Etat de Washington s'opposa vigoureusement au bill, qui fut défait en comité.

Oklahoma

Le 24 février 1959, un bill fut soumis à la Législature d'Oklahoma dans le but de créer un "Bureau d'Examineurs pour les Techniciens dentaires." Le projet de loi était destiné à octroyer des licences à des "apprentis techniciens dentaires", à des "techniciens dentaires" et à des "maîtres-techniciens dentaires" et aurait permis aux "maîtres-techniciens" de prendre des empreintes et faire tout le travail de prothèse "... pour le public en général aussi bien que pour les dentistes". La Législature rejeta le bill.

Illinois

Il y a un bill des "denturistes publics" en préparation, mais au moment de la rédaction de ce rapport, celui-ci n'a pas encore été présenté à la Législature.

Californie

Deux bills du genre "denturiste" ont été soumis à la Législature. Ces bills, qui sont identiques, établiraient un "Bureau d'Etat des Examineurs pour Techniciens den-

taires" composé de 3 patrons de laboratoire, de 3 techniciens dentaires et d'un membre d'union ouvrière. Par cette loi, il faudrait une licence pour l'exercice de la "mécanique dentaire" et pour diriger un laboratoire dentaire. La "mécanique dentaire" est définie comme "la confection, la modification et ou la réparation de toute restauration ou de tout appareil artificiel utilisé ou inséré dans la bouche humaine".

Au 15 mai, aucune décision n'avait encore été prise au sujet de ces projets de loi.

Michigan

Le vocabulaire s'est enrichi d'un nouveau mot quand la Législature a été saisie d'un projet de loi dans le but d'instituer un Bureau de "Denturologie" pour réglementer et décerner des licences aux "denturologistes". La "denturologie", selon les termes des projets de loi "comprend toute la prothèse dentaire et confère aux techniciens dentaires ou aux "denturologistes" le droit de transiger directement avec le public, en offrant leurs services, par sollicitation ou autrement, sans être obligés d'avoir une ordonnance ou une commande d'aucune personne licenciée pour exercer la médecine, la dentisterie ou autre profession thérapeutique".

On croit que la Législature, du moins cette année, ne prendra pas de décision sur cette question.

Au Canada, les "denturistes" ont jusqu'à maintenant pris les initiatives suivantes:

Alberta

En janvier 1958, un bill privé était présenté à la Législature d'Alberta pour établir et donner un statut légal à la "Société des Denturistes publics d'Alberta". Le projet de loi des "denturistes" déclarait que "la Société sera formée de personnes qui, après la sanction de ce bill par le lieutenant-gouverneur, seront enregistrées pour exercer comme "denturistes publics" certifiés dans la province d'Alberta."

La loi était conçue pour permettre "aux denturistes publics" certifiés de réparer, confectionner, ajuster tout dentier complet, inférieur ou supérieur pour le patient lui-

même", à condition cependant qu'aucun "denturiste public" certifié ne puisse faire, produire, confectionner, fournir, remettre ou ajuster tout dentier complet, supérieur ou inférieur, directement pour le patient éventuel sans que celui-ci (le patient) obtienne d'abord un certificat de santé buccale d'un médecin dûment qualifié ou d'un dentiste et remettre le dit certificat au "denturiste public".

La loi aurait confié l'administration des affaires de la Société à un "conseil de direction" et aurait doté le "conseil" du pouvoir de (a) fixer un programme d'études pour les étudiants "denturistes publics"; (b) surveiller la conduite des membres de la Société et (c) suspendre ou rejeter les membres de la Société pour mauvaise conduite professionnelle, incompétence ou manque de se conformer à un règlement de la Société.

La loi créait aussi un "Bureau d'Examineurs pour les Denturistes publics" différent et autonome du bureau dentaire tel que mentionné dans la loi de l'Association dentaire d'Alberta. Le Bureau des Examineurs des "denturistes" avait comme fonction de (a) évaluer les crédits des candidats à l'exercice; (b) exempter des examens un candidat qui de l'avis du "Bureau", possède suffisamment d'expérience, qui a reçu une formation adéquate et qui possède les qualifications requises par la loi; fixer des examens ou des épreuves à tenir pour toute personne qui n'a pas été exemptée des examens par le "Bureau" et (c) remettre des certificats d'admission à l'exercice aux candidats qui ont réussi leurs examens. Un candidat qui aurait réussi les examens du "Bureau des Examineurs" aurait eu droit à un "certificat d'admission au registre" et ce certificat aurait déclaré que le possesseur est "qualifié pour exercer comme "denturiste public" certifié dans la province d'Alberta."

En avril 1958, le comité des bills privés de la Législature a tenu des séances publiques de deux jours et demi au sujet du bill des "denturistes". A la fin des ces délibérations, le bill fut rejeté en comité. L'Association dentaire canadienne, l'Association dentaire d'Alberta, la faculté dentaire de l'Université d'Alberta et l'Association des Laboratoires dentaires d'Alberta s'opposaient à ce bill.

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Congrès de l'Association dentaire canadienne à Ottawa

les 25, 26, 27, 28 septembre 1960



Hôtel de ville

Communications

- 1) Hugh R. McLaren, C.D., D.D.S., D.D.P.H., du Ministère de la Santé nationale et du Bien-Etre social
"Etude sur l'état des dents chez les Esquimaux"
- 2) Merrill G. W. Leatcroft, capitaine du Corps dentaire de la Marine, de l'Ecole dentaire de la Marine des Etats-Unis
"Progrès des recherches sur la carie dentaire"
- 3) H. R. MacLean, D.D.S., F.A.C.D., doyen de la faculté de Chirurgie dentaire de l'Université d'Alberta
"Concepts modernes de la radiologie"
- 4) H. W. Hart, D.M.D., de la faculté de Chirurgie dentaire de l'Université de Manitoba
"Techniques audio-visuelles pour l'enseignement"
- 5) Margaret E. Hatton, B.A., Ph.D., de l'Université de Toronto
"Evaluation du rendement des techniques de prévention en orthodontie"
- 6) Paul Geoffrion, B.A., D.D.S., A.I.D.O. (R.A.), F.I.C.D., F.A.C.D., doyen de la faculté de Chirurgie dentaire de l'Université de Montréal
"L'orthodontie à la portée de l'omnipraticien"
- 7) Wilfred J. Johnston, D.D.S., F.I.C.D., de l'Université McGill
"Procédés d'urgence en endodontie"
- 8) John E. Merritt, D.D.S., de l'Université Dalhousie
"Restaurations d'or et de porcelaine — techniques au fauteil"
- 9) Major J. C. Brick et Lt-Col Craigie, du Corps Royal Dentaire Canadien
"Les fonctions du dentiste militaire pour les soins d'urgence en cas de catastrophe nationale"

Nouvelles de l'Association

Diplôme honoraire du Collège Royal des Chirurgiens d'Angleterre au secrétaire de l'A.D.C.

Le docteur Don W. Gullett, secrétaire de l'Association dentaire canadienne, au cours d'une cérémonie spéciale tenue à Londres en juillet dernier, a reçu un diplôme honorifique en chirurgie dentaire du Collège Royal des Chirurgiens d'Angleterre. Le docteur W. Scott Hamilton avait reçu le même honneur il y a quelques années et il assistait à la cérémonie pour recevoir personnellement son parchemin.

Le docteur Gullett a profité de l'occasion pour offrir au président du Collège un certificat enluminé. Plusieurs de ces certificats ont été présentés par des associations nationales représentées à cette cérémonie, qui marquait le centenaire de l'octroi de licence en chirurgie dentaire par le Collège.

Nouveau journal dentaire

Un nouveau journal destiné à servir de liaison entre le chercheur et le praticien sera publié par les Presses de l'Université de Chicago. La première livraison de ce journal trimestriel, qui aura comme titre "Dental Progress" et qui contiendra 64 pages, paraîtra au milieu de l'été. Le docteur George W. Teusher, doyen de la faculté dentaire de l'Université Northwestern, Chicago, en a été nommé le rédacteur.

Nouveau genre d'auxiliaires pour les dentistes

Le docteur J. Donovan Ross, Ministre de la Santé de la province d'Alberta a fait part d'un projet du gouvernement pour former des Auxiliaires Dentaires Enregistrés. Ce projet a pour but de procurer des traitements dentaires aux enfants des régions rurales au moyen de cliniques volantes qui seraient desservies par des auxiliaires dentaires enregistrés sous la direction de dentistes.

La prochaine session de la Législature d'Alberta sera saisie de cette nouvelle loi, qui se propose d'établir un cours de deux ans pour ces auxiliaires. On espère que quelques-unes de ces cliniques commenceront leur travail dans les campagnes l'été prochain avec l'aide de quelques dentistes assistés d'étudiants de troisième et de quatrième années.

Voici comment fonctionnerait cette organisation: les dentistes de la clinique feraient les examens, le diagnostic et le plan de traitement et la préparation des cavités; les auxiliaires rempliraient les cavités et donneraient d'autres soins, tels que l'application de solutions de fluor sur les dents, les pro-

phylaxies et donneraient des conseils sur l'hygiène dentaire. Ces cliniques volantes travailleraient de concert avec les 22 unités sanitaires de cette province. Les traitements préventifs seraient prodigués gratuitement aux enfants d'âge pré-scolaire et aux écoliers durant les heures de cliniques. Les dentistes auraient le droit, après les heures de cliniques, de traiter les adultes et de percevoir des honoraires. Plus de 150 dentistes d'Edmonton et de Calgary ont offert leurs services pour travailler dans ces cliniques, à raison de deux semaines chacun. Des délégués de l'Association dentaire d'Alberta et de la faculté de chirurgie dentaire de l'Université d'Alberta ont collaboré avec le gouvernement pour organiser ces traitements pour les populations des régions éloignées des grands centres.

La Société Royale de Santé

La Société Royale de Santé a informé le président et le secrétaire de l'A.D.C. qu'à l'avenir les membres actifs et les membres à vie de l'Association dentaire canadienne peuvent devenir membres réguliers de la Société et ce titre est le plus élevé qui puisse être conféré directement à un individu.

La Société Royale de Santé est l'organisme le plus considérable du genre au monde. Elle a été constituée en 1876 et elle a comme patron d'honneur Sa Majesté la Reine Elizabeth et le Très Honorable Lord Cohen de Birkenhead. Un dentiste, le docteur, W. G. Senior, C.B.E., F.D.S.R.C.S., en est le président du Conseil. Ses objectifs sont de promouvoir la santé de la population, y compris la santé dentaire et au nombre de ses 22,500 membres on y compte plusieurs dentistes. Les membres reçoivent un Journal qui publie les conférences et les rapports des discussions qui se déroulent aux séances annuelles du Congrès International de la Santé. Le Journal permet à ses lecteurs de se tenir au courant des progrès réalisés dans le domaine de la santé, chez eux et à l'étranger, et renferme des renseignements sur les nouveaux produits et l'équipement récent, les recherches et d'autres nouvelles. La Société a un bureau de renseignements techniques et tous ses membres peuvent y demander les informations qui les intéressent.

Les membres ont le droit d'indiquer leur appartenance à cette société en ajoutant à leur nom le sigle suivant: M.R.S.H.

Les membres de l'Association dentaire canadienne sont invités à devenir membres de la Société et, pour ce faire, ils doivent communiquer avec le secrétaire, dont le bureau est situé à 90 Buckingham Palace Road, London, S.W.1.

Volume 26
Number 6
Toronto
June 1960

The Canadian Dental Association

JOURNAL

Highlights of Canadian Dentistry—January 1960*

W. G. McINTOSH, D.D.S., Toronto, Ontario.**

The Canadian Dental Association is very pleased to receive invitations for the Secretary and President to visit and to participate in the programs of dental organizations across Canada. The national organization leans heavily on the local active dental associations and therefore appreciates the opportunities to discuss mutual problems with these groups.

The President-elect of our national body last year was Dr. W. J. Langmaid of

Oshawa, Ontario. The Association was looking forward to this year as a year of particular accomplishment and growth of stature under his capable and enthusiastic leadership. Unfortunately for Dr. Langmaid and for Canadian Dentistry, illness has prevented him from taking over the reins of office and to me fell the honour and privilege of substituting for him. This I am proud to do to the best of my ability.

In the few minutes at my disposal, I would like to touch briefly on the following general topics: the organization, aims and activities of the Canadian Dental Association; urgent problems; specific needs;

*An address delivered during the President's and Secretary's annual visitation.

**President of the Canadian Dental Association.

trends in which the dental profession is involved; and finally the responsibility of the individual dentist to his profession.

What is the Canadian Dental Association? It is an incorporated national association of qualified and properly registered dentists in Canada. It is much more than this. It is *your* national dental organization, established to unite our professional groups from coast to coast and to give our profession a united voice at the national and international levels of government and other agencies.

Its objectives are high. In essence they are to elevate professional standards by encouraging education, research and dissemination of dental knowledge. Better dental health for all people, and the safeguarding of common interests of the members of the profession are its important aims.

At the time of the last count there were 5,780 members. Membership is designated by the corporate bodies of each province. For each name submitted the provincial organization pays the national organization a per capita grant which provides the latter organization with funds to conduct its professional activities.

The provincial licensing bodies select representatives to sit on the board of governors of the national association. Each provincial corporate body is entitled to have one representative on the national board, plus an additional representative for each additional 500 registered dentists or major portion thereof. From across Canada there are in all 16 such representatives. The board of governors of the C.D.A. is made up then of these 16 representatives, plus the officers of the association. The President temporarily loses his affiliation with a specific province on taking over the President's Chair and that province is then entitled to select another representative. The board of governors attempts to carry on the business of the organization in a truly democratic manner.

The C.D.A. now has 22 active committees and approximately 100 dentists serving on these committees. Each committee is charged with specific duties and at each

annual meeting the chairmen of the various committees are invited to sit in with the board members and present their respective reports for the year, and to enter into the general discussions on all topics.

For anyone who has not sat in on one of these annual business sessions of the national association it is, I believe, a most worthwhile experience to do so. Not only do you have the opportunity to enter into all the discussions and thereby strengthen the actions of the association, but you also see at first hand a little of the time and effort that are being spent on your behalf.

A few references to the activities of the association will serve to indicate something of its impact on Canadian Dentistry.

The survey of Dental Schools in Canada, undertaken by a special committee, appointed by the C.D.A., to assess the teaching in each of the Canadian dental schools and subsequently to make recommendations, has made great progress in improving the teaching of dentistry.

The establishment, by federal charter, of Canadian Dental Service Plans Incorporated, in March 1959, to assist in the administrative services relative to plans for dental care, which have been approved by the participating provincial dental bodies, has marked a significant advance in the complex atmosphere of dental health plans. The most important point in this respect is of course the fact that the profession has broadened its services and at the same time retained the administrative control of these services.

The organization of, and benefits from the C.D.A. Pension-Assurance Plan are looked upon with envy by many other large groups. The privilege, which is yours, to participate in the various schemes under this pension-assurance program, is the outcome of many years of study and planning by the Association.

The *Journal of the Canadian Dental Association* which is now read in nearly every country in the world and has a circulation of 6,800 is in itself no small achievement.

The attitude of your national organization toward dental research in Canada

has, I think, been exemplary. For the past thirteen years it has contributed to dental research by making monetary student-ships available to eligible students desirous of advanced training in research procedures and teaching methods. By these efforts over 40 students have now had training in research procedures and are making important contributions to the advancement of dental science and knowledge. Most of these young men are now engaged as full-time staff in our Canadian dental schools.

These are only a few of the many fields of activity in which your national association is engaged but I think they serve to indicate something of the scope and importance of its interests.

PROBLEMS

Our profession, like any other young organization, is having growing pains. A number of apparently urgent problems are now at our doorstep.

It is, I believe, the responsibility of the health professions to render treatment services to the public. Are we living up to this responsibility? There are those who say we are not. What statistics we have indicate that in a one year period, less than 1/3 of the population in Canada receives adequate dental care. Lack of service for the other 2/3 appears to hinge around three main considerations:

- (1) There are not enough dentists (1 dentist to 3,000 people in Canada).
- (2) The dental population is too concentrated around the urban centres—leaving many rural areas with no dental service.
- (3) A large percentage of the population is unable to afford adequate dental care.

Our present inability to circumvent these three obstacles is probably the most critical problem confronting our profession today. This is particularly true in view of the government's recent interest and actions in connection with health legislation.

The government has given every indication of intending to gradually establish an all-inclusive health program. From

countries where such a program is already a reality we are advised to do everything possible to retain, within the profession, the administrative control of dental health services. Who, after all, is in a better position to administer a service than those trained by education and experience to render those services? I know of no better way for dentistry to retain its own administrative control than by demonstrating its ability to do so. This will mean tackling the three obstacles to which reference has just been made with definite actions and not just words.

There are of course a number of directions in which we could move to help improve this situation but I wonder if sufficient consideration has been given to first — a drastic expansion of dental auxiliaries and the services they are permitted to render, and secondly—to some form of educational bursary sponsored by the profession.

These are not new ideas but little has been done to date to implement either of them on a national level.

Dental auxiliaries, whose services were under the direct supervision of qualified dentists, and who were trained under the aegis of the dental profession, could if allowed a broad field of service, greatly increase the total dental service to the people of Canada. The profession must of course, retain full responsibility for the patient's welfare and specifically for the examination, diagnosis, prognosis, treatment plan, cutting of hard and soft tissues, administration of drugs and the making of prescriptions. Many of the other services could be successfully delegated to properly qualified and recognized auxiliaries.

The educational bursary should be sponsored by the profession, and in return for which the new recipient graduate is obligated to provide a period of service in a location designated by the profession. Such a step might result in an increased number of applications for dentistry from high calibre students, and at the same time provide dental service in areas in

which these services are not presently available.

Another area which is causing considerable concern to our profession is that created by the practices and requests of the unethical dental technicians or 'denturists' in Canada.

In British Columbia the unethical technicians have each year for the last eight, presented bills to the government asking recognition, and the right to deal directly with the public. The latest development there is the establishment of a board by the government, on which the dental profession, the ethical technicians, and the unethical technicians have equal representation, along with an independent chairman and a lawyer. The legislation gives this board power to make regulations governing all technicians and it is claimed that it also provides permission for the technicians to deal directly with the public.

Alberta has had legislation permitting the dental laboratories to deal directly with the public provided a dentist does the necessary surgery, impressions and bites. This legislation has been badly abused and the technicians have introduced new legislation to do away with the qualified dentist. A government committee is supposed to be studying this matter at the present time.

As I am sure you are aware, early last spring the denturists in Saskatchewan made a sufficiently impressive representation to the provincial legislature of that province, that over the advice and insistence of the dental profession, Bill 90, a dental act was passed. In essence this Bill now legalizes anyone to render dental service to the public after obtaining from a legally qualified medical practitioner or dentist, a certificate of oral health for the person for whom the work is to be undertaken. In other words the denturist is now legally permitted to do dentistry for the public. The fact that the denturists do not have to meet any standards of education, technical skill or other qualifications which might be a safeguard to the public

interest, seemed to be of little significance at the time this Bill was passed.

Basically a very similar situation exists in Manitoba. For several years a group of technicians have been presenting bills to the legislature in an endeavour to secure the right to serve the public directly. As they state, they are only asking to be made legal what they are doing anyway.

Perhaps all this action is not contrary to the wishes of our profession at large! Indeed the general complacency of dentistry since the passing of Bill 90 in Saskatchewan would lead one to believe that this is the case. If it is not so — then what are we to do about it? Obviously the first thing to do is to make up our minds as to what is in the best interests of the public and the profession and then go all out to accomplish this objective. If these unqualified technicians can render a service which is acceptable to the public, and apparently they can, then it is impossible for me to believe that organized dentistry, if it chooses, can not improve on this service in every respect.

In addition to the government's interest in general health schemes, a number of unions and large business organizations are acutely aware of the advantages to them of a prepaid dental health program. Dentistry provides the glaring gap in an otherwise nearly complete health service available to them on a prepaid basis. The demands of the unions and other organizations require our serious consideration. Otherwise they are prepared, or soon will be, to set up their own clinics, pay the dentists a salary and take over full control of dental services. Several instances of this development are already in operation in the United States.

There are, of course, many problems which are important, and which are striking at the life blood of our organization. These few should serve to illustrate something of the magnitude of the problems and the seriousness of the next move that organized dentistry makes.

NEEDS

Recognizing the need for expert help

in solving these problems, the Board of Governors at its last annual meeting approved the recommendation that statistical and legal advisors be added to our headquarters staff. When government agencies are reviewing the status of our profession and the services we render, it is dental statistics that they review. Statistics which cover every conceivable phase of the practice of dentistry. Furthermore it is highly qualified and skilled statisticians who are doing the investigating. This means of course that if we are to start discussions on an equal basis, then we too must not only have all the facts at our finger tips, but we must also have someone equally well qualified to understand and properly present the facts. This is not meant as criticism of the efforts of our representatives of the past but rather to try to point out the urgent need for much larger facilities, and for specially trained and experienced counsel in this highly specialized field.

The increased activity in recent years in the field of health legislation has created a very similar demand on our profession for expert legal advice. Nearly all the provincial dental bodies have at one time or another sought assistance in legal matters from the national organization. The C.D.A. has done its best in this respect, almost entirely through the untiring and effective efforts of our Secretary, Dr. Gullett. But again, this is an area for specially trained personnel. It appears, in light of the present trend, that this phase of your association's activities will become much more demanding. Year by year health legislation is increasing and becoming more complex on a world wide basis. This necessitates a skilful study of all these legislative developments so that the profession is in a position to offer competent advice. It is therefore highly desirable that we have the benefit of special legal counsel, so familiar with all legislation pertaining to dentistry, that there would be no higher authority on the subject.

Further needs arise out of the necessity

for the expansion of nearly all the association's regular activities.

The work of almost every committee could be cited as an illustration of this expansion. Let me mention just two examples. In the field of dental health education activity has developed beyond every estimate and demand for educational literature continues to grow. Last year the C.D.A. press turned out over a million copies of dental health leaflets and pamphlets. Of interest is the fact that governments are our largest customers. Prevention and control of dental disease is the aim and if it is to be accomplished, this service must be continued and expanded.

The actions of the C.D.A. in support of dental research is the other example that I would like to cite. In 1946 when the research studentships were inaugurated the annual budget for the research committee was \$1,000. Last year the committee granted studentships in excess of \$10,000. The value to a profession, of an active research program is, I believe, unquestioned. It is therefore in the best interests of public and profession to continue to expand this area of activity to the best of our ability. Experience has shown that if we have the men qualified to do the research, the money to support the project will likely be forthcoming.

The demands then for additional expert help on our headquarters staff, the continued expansion of our many activities plus the inflationary period in which we find ourselves all require an increased budget. After careful consideration, the Board of Governors of the C.D.A., at its last annual meeting in Halifax, decided to request a \$15.00 per capita increase in its grants from the provincial bodies. I am pleased to report that the response to this request from all across Canada has been stimulating and encouraging. Several provinces have now officially indicated their willingness to subscribe to the full amount that the national organization believes necessary to properly conduct its affairs.

TRENDS

Recently, in conversation with the Dean of one of Canada's medical schools, I was told that within the next 20-30 years dentistry would cease to exist as a separate profession. The inference of course was that dentistry would become a branch of medicine. Whether you agree with the idea of such a transition or not, does not concern me as much as does the possibility that changes of this magnitude may be gradually taking shape without the profession being aware of any trend, or taking a stand as a united group, to control these developments.

If one were to look, trends may be found in several dental areas. In regard to dental organizations, the trend is to form larger, more influential units. The International Dental Federation of which the C.D.A. is a national member, now represents about 275,000 dentists from all corners of the earth. Through the activities of this international organization, dentistry now has a permanent representative on the World Health Organization. WHO has in recent years shown a real interest in dental services. It is made up of appointees who are for the most part government health officials from some 70 countries. Policies established there are taken back to respective governments and in this way become a definite concern to us in Canada.

In the field of health insurance many changes have occurred over the past few years. Our governments are more or less committed to an all-inclusive health insurance program. Toward this ultimate goal they have been advancing since the original old age pension act in 1927. In the meantime, and at fairly regular intervals, several new forms of legislation have been adopted, each in its own way bringing us one step closer to complete health insurance. As of October 1st last, all provinces with the exception of Quebec, have hospital insurance plans in operation, most of which are compulsory. Some also have insurance programs providing full medical coverage. Dentistry

is the missing link in this nearly completed health chain. How long this gap will remain open no one really knows.

Already some eight experimental programs are being tried in Canada on pre- and post-paid dental schemes. In the United States more than 100 prepaid dental care plans are in operation, mostly sponsored by unions and involving about 1,000,000 people. In several other countries complete medical and dental programs are now administered by the state. These developments certainly indicate a trend and there is no doubt that further alterations in Canadian health services will soon be recommended. In order to meet this challenge it is necessary for dentists to give their cooperation and enthusiastic support to the dental service plans sponsored by the profession, and even though a plan may fail to attain its original objectives, the experience gained in administration would be of inestimable value to the profession.

Another interesting development has arisen out of the profession's sincere desire to know accurately the dental needs of the people in Canada. The dental public health committee has made great strides in the tremendous task of setting up a dental health index for Canada. When completed, this index should provide prevalence and incidence figures on caries, malocclusion and periodontal disease on a national, a provincial, and a community basis. Such figures will be invaluable for a variety of research projects, for the establishment of treatment methods, and when planning or advising on possible health insurance programs.

While many aspects of our professional development could be mentioned as indicative of trends, let me remind you of just one more. This past July our invaluable and highly respected Secretary was given the signal honour of having a significant Fellowship in Dental Surgery conferred upon him by the Royal College of Surgeons of England at the dental centenary celebrations of this body. This is only one of many such honours that

have been conferred on him. It is of course an acknowledgement of Dr. Gullett's tremendous contributions to dentistry, not only in Canada but also on an international level. It also, I think, brings honour to Canadian Dentistry and is an indication that our organization has grown and developed to the point where it is internationally recognized and is expected to assume its rightful responsibilities in world health affairs. The fact that Dr. Gullett has been asked to serve, and is serving as a dental advisor to the World Health Organization is further evidence both of his ability, and of our association's top level responsibility.

RESPONSIBILITIES

The points that have been briefly mentioned as problems, needs and trends, are but a few of the highlights of Canadian Dentistry as it is today. Some of the accomplishments are considerable and about which we can be justly proud; other situations leave much to be desired; all indicate the need for organized dentistry to face up to its problems and responsibilities and with a united effort to move forward on all fronts. To be successful two very important features must characterize our activities. One is that we make a continued diligent effort in the direction we believe to be right, and the other is to have a stability within our own organization. The C.D.A., as an official body endeavours to work by applying these two principles, but can only be effective if its individual members adhere to the same principles.

Where do you and I fit into this challenge? Do we as individuals have a responsibility toward the profession's objectives and its future? The C.D.A., or any other organization, will be just as strong in the accomplishment of its objectives as the individual members allow it to be. For in fact, it is the individuals that make the organization. Dentists need a real spark of enthusiasm for their own profession; they need to be proud of its accomplishments and at the same time determined to improve its shortcomings.

With regard to the matter of recruitment, one of our great problems, organized dentistry can go just so far. In the final stages the prospective dental student seeks advice from his own dentist. The enthusiasm or discouragement expressed by that dentist is vital. His actions in the dental office, his participation in community affairs, his acknowledgement of civic responsibilities are all a part of his public relations and important facets of his ability to inspire or discourage others. This is an area in which you and I can do a great deal to improve the influence we have on young prospective dental students. Let us be on the lookout for these opportunities and be enthusiastically conscious of what we owe our profession, rather than disgruntled about what we sometimes mistakenly indicate that the profession owes us.

We as individuals, also have a responsibility in regard to making our services available to the greatest number of people. The final solution to this particular problem is not one that I can define at the moment, but it certainly needs our concern and study. Several groups within organized dentistry are now devoting much time and effort trying to find a more efficient way of making our services available to the public. These studies include the efficiency of service within private offices, the training and use of auxiliary personnel, types of group practice, traveling clinics, further expansion of educational facilities, pre- and post-payment dental service plans, and others. It is imperative that we find an answer to this critical problem and find it soon. The co-operation of all dentists is essential for a successful outcome.

Last year a second statistical survey of dental practice in Canada was considered essential by the C.D.A. for a number of most important reasons, to which reference has already been made. Every dentist in Canada was asked, in fact urged, to cooperate in filling out the form provided. The final count showed that only 40% of us dentists were concerned enough, or co-

operative enough to assist the representatives that we had placed in office to carry out this tremendously important assignment. At the same time we ask with critical innuendoes how it was that the C.D.A. allowed the passage of Bill 90 in Saskatchewan providing the legislation which permits the unqualified to render dental service to the public? In my opinion it was a black mark on dentistry that the response to this questionnaire was not 100%. Divided in effort we can only be weak; united we can be strong.

Dr. Munroe of the United Nations recently said "the fact that people have

never wanted war has never prevented war". Actions, not wishes, are what count. The same principle applies to the future of dentistry. It is the actions we take now, and not our good intentions which will determine our eventual position as a health profession. Every dentist must realize that he is a vital and essential unit of his profession. He must be mindful of the strength of a united organization. He must be enthusiastic about his profession and he must take an active and constructive part in all its affairs.

170 St. George

Diet, Its Dynamics and Dental Disorders*

V. GERARD BASTIEN, *Chirurgien Dentiste Haiti*,** Toronto, Ontario

A striking paradox in the development of the medical sciences lies in the discrepancy between their therapeutic and preventive aspects. While treatment, specially the surgical forms, has achieved dramatic perfection as seen in the cardiovascular and intra-cranial operations, circulatory diseases, which probably could be prevented by some changes in our dietary and living habits, are killing one out of four North Americans. Other degenerative diseases, visual defects, cancer,

mental disturbances are said to be affecting an increasing number of the population of this part of the World, with little prospect of prevention. Then, success in prevention has been localized almost entirely in the field of bacterial and viral diseases through isolation and active or passive immunization. Dentistry is following the same historical pattern of development: Here also, prevention has been lagging behind remarkable achievements in the restorative and surgical fields. Only recently the use of the fluorides, that almost packaged gift from Nature for the partial control of the most widespread of microbial diseases, dental caries, has

* A Graduate Essay submitted toward the Diploma in Dental Public Health—April 1960.

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been initiated on a large scale basis. The same holds true for Jay's low carbohydrate diet.

On the other hand, while restorative dentistry has harnessed advanced surgical technology to achieve the implant denture for example, few practical steps seem to have been attempted in the prevention of the two other main offenders in the dental triad, periodontal diseases and mal-occlusion.

Much clinical evidence and a large number of studies, however, point out that proper diet can be the one measure which shows an important role in further control of caries while, at the same time, showing beneficial effect on the health of the supporting tissues and occlusion of teeth.

The particular diet that I propose to discuss is one which calls for active function of the masticatory muscles and bones, of the teeth, periodontal membrane and gingivae. I will refer to it as "ergogenic diet" (from the Greek *ergon*, work, function). Conversely, a diet which demands insufficient function of the masticatory apparatus, causing eventual disorders by disuse will be termed "anergonic".

PREVENTION OF DENTAL CARIES AND PERIODONTAL DISEASES

During the past 50 years quite a number of investigators have tried to find the answer to the problem of preventing dental caries and periodontal diseases. A variety of solutions has been submitted. Let us briefly review the most important of these and attempt an evaluation of their contribution to the solution of the problem.

a) Oral Hygiene.

Oral Hygiene is as old as the earliest civilization of which we have archaeological records.

With the advent of mass media of communications, highly laudable efforts have been made to impart to the public the principle of oral hygiene as a means of

controlling caries and periodontal diseases. Still, as Hine¹ pointed out in 1948: "Statistics show that during the past generation, there has been an increase in dental caries and in the sale of toothbrushes. One must conclude that toothbrushing as commonly practised is not a good caries control procedure . . . The same statement can be made for the use of toothpicks, dental tape or floss and gadgets for interproximal polishing of teeth . . ." Fortunately, the work carried out shortly after Fosdick² shows a significant reduction of 50% in caries attack rate over a two year period in 523 students who were instructed to brush their teeth within 10 minutes following each meal, the control group consisting of 423 students who used their toothbrushes upon arising in the morning and, in the evening, before retiring.

Besides, the relation between oral hygiene and gingivitis is a generally accepted fact and which has received some statistical confirmation from the work of Castenfelt³, for example, which reported reduction in both gingival bleeding and pocket depths in 54 adults, following toothbrushing and a massage with wooden sticks.

b) Balanced Diet.

For some time, chiefly in the thirties, much emphasis was put on the beneficial effect of a "balanced diet" in controlling caries. The theory has proved inconsistent with a number of facts showing a similar or even smaller incidence rate of caries among undernourished groups.

Sognaes⁴ reported a decrease in dental decay in European children living on a sub-standard diet during and after World War II. Taylor and Day⁵ found a low average of 1.5 caries in 22 women afflicted with osteomalacia and Afonsky⁶ concluded "caries is less common in malnourished than in well-nourished individuals", following his findings of DMF rate of less than one in a group of 3300 students in Central China. In 1957, the essayist carried out a survey in Port-au-Prince, Haiti, among 110 North American school chil-

dren, all from well-to-do families and evidently living on a nutritionally adequate diet. Although showing a much better picture of oral and general health than a similar group of native school children drawn from a poor and undernourished class, the DMFS rate of the first group was some 40% higher than that of the second.

As Jay et al⁷ point out: "Most patients know from personal experience that the inclusion in the diet of adequate amount of milk, fruits, vegetables and vitamin preparations will not prevent dental caries as has often been claimed".

As far as the relationship between "balanced diet" and periodontal diseases is concerned a careful investigation was conducted in 1946 by Linghorne and McIntosh⁸ on 120 Air Force personnel suffering from gingivitis. They were divided into treatments and control groups. Despite the exhibition of various combinations and doses of vitamins including ascorbic acid, the treatment groups failed to show significant improvement in doses above the minimum daily requirement. However, the health of the supporting tissues of the teeth is affected by a number of deficiency diseases.

c) *Jay Diet.*

The epoch-making discovery by the Michigan group of the relationship between dental caries and the *Lactobacillus acidophilus* index through the carbohydrate intake has provided dentistry with a valuable weapon against tooth decay. Unfortunately, as Jay⁷ himself recognizes: "Such low carbohydrate diet can be planned to meet the nutritional requirements of most individuals but they are not consistent with contemporary eating habits and are therefore inconvenient to maintain." The resistance of the public to overcome the established habit of high carbohydrate diet or to abide, even for a few weeks, by Jay's diet, has limited its application as a preventive measure in any large scale caries control programme.

This "laissez-faire" attitude is, after all, prevalent in many other fields of prevention, as seen, for example, among the millions of heavy smokers, including physicians, who feel that enjoying a pleasant habit is worth risking throat or lung cancer. Unless Public Health Education succeeds in changing such a fatalistic attitude, the Jay diet will, unfortunately, have but limited application as a caries control measure.

d) *Fluoridation.*

In 1928, McKay established the fluorine-dental caries relationship. Following that all-important discovery, experimental fluoridation of public water supply was initiated in 1945 in Grand Rapids, Newburg and Brantford. Reports of reduction of 60% or more in dental caries among those communities opened a new era in Dental Public Health, the era of mass prevention.

The generalization of topical application of fluorine and its ingestion in water coupled with proper hygiene and dietary habits make it reasonable to foresee a high degree of prophylaxis of caries on a national basis. However, it has been estimated that only 60% of the population of the U.S. draw their drinking water from public supply. Consequently some other means must be devised to reach the remaining 40% scattered in rural areas.

THE MODERN ANERGONIC DIET

The overwhelming array of evidence available makes it almost a truism to state that "primitive" diet is more conducive to better development of the masticatory apparatus than is its "civilized" counterpart.

Commenting on a recent uncovering of an archaeological site, Grainger⁹ vividly remarks: "... Teeth of Iroquois can last in the mud for 400 years with little damage, but modern teeth can only last two or three years in the mouth of a Toronto child. . ."

Fortunately, we can anticipate the time when the fluorine ions will save the teeth

of late twentieth century children for the admiration of future scientists. What, then, is likely to thrill them might be the relatively well-developed jaws of "*Homo Torontoniensis*" if we can predict by the visionary speculations of that writer who described the future man with an enormous cranium for an over-active brain but with residual jaw bones through disuse.

Indeed, an unfortunate feature of modern civilization has been the systematic "pulpalisation" of foodstuffs through a variety of industrial processes. They have initiated a chain of dental disorders on a continental scale. From that point of view, Brekhuis and Armstrong¹⁰ were justified in writing "civilization a disease".

A large number of observations proves that whenever the modern diet of devitalized, soft, farinaceous carbohydrates, of non-detergent, anergonic food has spread among primitive races which were, until then, enjoying good oral health, they left a trail of dental ailments behind them.

a) Caries.

Kearman¹¹ after demonstrating that a caries-free mouth was a characteristic of the primitive man, affirms: "... The reverse holds true that, with the advent of civilization and the consumption of refined carbohydrates in excess, dental caries has become rampant . . . "Taking oral health as a criterion, Price¹² carried out an extensive study of the isolated and "modernized" natives from various racial backgrounds: Swiss, Gaelic, North American Indian, Eskimo, Melanesian, and others. He demonstrated extensive disorders among the modernized samples whereas the isolated ones continue to enjoy good dental health. Mellanby¹³ studying caries rate of skulls of various existing primitive races gives the following figures as collected by several investigators:

Racial groups	% with caries	No. of skulls
Maoris	0.76	260
Eskimos	2.9	69
New Zealanders	2.9	67
West Africans	28.0	236

Finn¹⁴ reports that "Steadmann found (1939) carious teeth in 2.3% of Australian aboriginal skulls while Campbell found 94% in 1490 aborigines living in contact with civilization have dental caries."

McIntosh¹⁵ noted a high incidence of decay among Canadian Indians living on the "white man diet", 80% for girls and 100% for boys up to age of 12. The tremendous cariogenic character of modern eating habits reflects itself in the following figures. In the U.S. and Canada, many surveys have shown that 50% of children by age 4 and 95% at age 14 have experienced caries.

b) Periodontal Diseases

The influence of our dietary customs have also extended their detrimental effect to the supporting tissues of the teeth. Many experimental studies have established a correlation between gingival involvement and the physical aspect of food:

Burwasser and Hill¹⁶ studied the action of ergogenic and anergonic diets on gingival tissues of dogs. After 14 months, the mouths of the dogs on the ergogenic diet was relatively free from debris and plaques, with firm, healthy gingival tissues and, microscopically, a thin, normal epithelium in the cervical crevice, was noted. The group on the anergonic food presented impaction of debris under the gingival margins, inflammation of the gingival crests, and, under the microscope, marked round cell infiltration of the sub-epithelial tissues.

Sognaes¹⁷ by feeding rats and hamsters during several weeks a ration of finely powdered, but nutritionally adequate diet, obtained accumulations of debris, pocket formation and osteolysis.

Goldman and Cohen¹⁸ relating lack of function to the aetiology of periodontal diseases wrote: "Functional insufficiency may be thought of in two ways: "First, it may be conceived as a total insufficiency of the jaws due to lack of exercise in mastication . . . Modern foods make use of the teeth and jaws unnecessary and, as a consequence, there is a diminution in

the supporting structure of the teeth. Second, functional insufficiency may be localized in certain portions of the jaws and in certain teeth having no antagonists."

Brehkus and Armstrong¹⁰ remark: "If we take a glance at the food on the American tables, the breakfasts, the lunches and the dinners — we soon become convinced that they do not tax the muscles of mastication."

Periodontal diseases are most prevalent, even among school children as shown in a survey conducted on 398 Toronto school children. McIntosh¹⁹ reports that 74.5% of those between age 6 and 11 have one or more pockets measuring 3 mm or more. Using the P.M.A. index, Schour and Massler report figures of 57.6% among Americans, age 20-34 and King, 88% in English youngsters age 12-18, as cited by Metha, Grainger and Williams²⁰.

Disease of the supporting tissues of the teeth is the most important factor in their loss. A posteriori, an increased incidence in their mutilative action can be expected unless the use of more dynamic food is generalized to control the local factors of aetiology.

c) *Mal-occlusion.*

The anergonic diet affects in an adverse way not only the gingivae and alveolar bone but also the position of the teeth in the jaws and the dentofacial relationship as a whole.

It does so first through its cariogenicity. Moyers²¹ states: "In most countries where the population exists on a refined dietary regimen, the greatest single etiological factor in the production of dentofacial deformity is dental caries." Campbell²² asks: "... How comes it that nearly all British jaws of today are ill developed. By which, I mean that they fail to attain a size permitting all the 32 teeth to take up their positions in the gum ridges without jamming or irregularities?"

After quoting Sir Arthur Keith who demonstrated that pre-roman Englishmen did not present the contracted palate, deformed jaws, long-narrow face, Campbell

continues: "The markedly contracted jaws characteristic of this period (of industrialization) are decidedly too small for the teeth, and are essentially individual acquisition of post-natal date, the result of inadequate use of the jaws brought about by an excess of soft food, notably the spongy, pultaceous (sugary) food, the product of highly milled wheaten flour." As a result, he reports that Sir Arthur Keith found gross deformity of the jaws and gross irregularities of the teeth in 25% of adult British.

Mal-occlusion is estimated to affect 50% of Canadian children by the age of 4 years and 70% by the age of 15.

THE ERGOGENIC DIET — INFLUENCE ON THE TRIAD

a) *Caries.*

Earlier, the ergogenic diet has been mentioned as a measure towards further control of caries.

Neumann & Di Salvo²³ have demonstrated experimentally that teeth are compressible under loads. They measured the compressibility of teeth and obtained readings for pressure of 200 lbs. ranging from 0.0013 to 0.0025 of an inch. Their deduction is the following: "As the tooth is compressible under the load of chewing, the fundamental enamel structure cannot remain unchanged by the intermittent compression and the crystal surfaces cannot face each other regardless of the pressure exerted on them . . ." They conclude then that teeth which are submitted to high chewing load are structurally stronger, denser, more caries-resistant than teeth exposed to a low load. They believe²⁴ this phenomenon explains the low DMF rate of 0.1 among certain adult Aymara Indians who, strangely enough, live on deficient, unbalanced diets, high in carbohydrates; furthermore their water supply was poor in fluoride.

Without considering such an eventuality as possible adaptation or resistance of the caries-producing organisms to the fluor-

ides, the ergogenic diet can increase the percentage of caries-free teeth through its detergent properties as well as its action on the structural elements on the tooth substance as demonstrated by the Columbia workers.

Furthermore, the importance of vigorous chewing in the promotion of healthy periodontal tissues and of bone development justifies the attention it deserves from Public Health Dentistry.

b) Periodontal Diseases

Much evidence, both experimental and clinical correlates masticatory function with periodontal tissues. Some of the material has been reviewed already. It is evident that chewing stimulates circulation in those tissues eliminating the local factor of stasis.

Calculus which plays such an important role as a local factor in gingivitis is greatly reduced in the user of coarse, fibrous foods, as previously shown. Experimenting on the action of sugar cane in treating periodontal diseases, King²⁵ states: "... In the case of human gingivitis due to tartar deposit, work now in progress strongly suggests that scaling of the teeth and daily use of sugar cane together comprise one of the most rapid and efficient means in treatment so far employed . . ."

The muscular development brought about to the masticatory apparatus by an ergogenic diet is shown in the work of Brehkus and Armstrong²⁶. Using Brehkus gnatho-dynamometer they compared the biting force of the undersized (5 feet) under-nourished Aymara Indians to that of American athletes. The average reading was 170 lbs. for the Indian groups and 126 for the American "supermen".

The increased muscular activity acts on bone formation and density according to Wolff's law: "The amount of bone depends on the need for it". Evans²⁷ states: "Most investigators are in agreement that function in the trophic stimulus for bone growth."

These principles were demonstrated by the exhaustive study by Watt and Wil-

liams²⁸. They fed two groups of weaning and two groups of adult rats rations of ergogenic and anergonic diet. Several months later, by measuring and weighing their mandibles and maxillae, they found them to be heavier and larger among the animals on a hard diet, and they reached the conclusion that "function as influenced by differences in the physical consistency of food, is an important factor in the growth and development of the mandible and maxilla of the rat."

c) Mal-Occlusion.

Contrasting with Campbell's complaints about the narrowness of the British jaws and resultant crowding of teeth, the perfect alignment and occlusion, the marked jaw development of natives living on a primitive ergogenic diet have repeatedly been stressed. Waugh²⁹ comments on Eskimo children: "the vigorous chewing of food is beyond question the great factor in jaw development as the children have little other food (meat of seal, walrus, etc.) after weaning . . . All this undoubtedly promotes growth of the jaws and enlarges the face . . . The degree to which this enlarging of the face occurs should be of special interest to the orthodontist in his effort to stimulate bone growth without appliances."

A "mise-au-point" may be in order. Well developed masticatory apparatus is not an exclusively attribute of primitive tribes living in some mountain top or other inaccessible areas. Campbell²² (3) reports the following remarks by Badcock on examining a group of German prisoners in a military hospital in Britain: "... I was surprised to see the exceedingly good development of the men's mouths. I have been looking at mouths for thirty years, and there I saw far more perfect dentures and better jaws than I ever have seen before." Those Germans were black bread eaters.

DISCUSSION

Good dentitions, well developed jaws are reported to be prevalent also among

Swiss, Greek, French peasants living on a diet of high chewing index food. This indicates that the ergogenic diet proposition is not a "vue de l'esprit", a chimera, but an attainable goal. It does not necessarily imply radical dietary changes in modern eating habits, but only a choice of foods requiring a given masticatory activity.

This can be achieved by 2 measures:

- 1) Availability of bread, cereal, meat, and others, specially prepared to give them a high ergogenicity.
- 2) Introduction of exotic chewy food, specially sugar cane.

Sugar cane carries great promises of buccal health: It is a pleasant fruit, non-cariogenic, supremely detergent. It provides excellent masticatory stimulation for the gingivae and muscles. After chewing two or three feet of sugar cane, one experiences an euphoric feeling of oral health due to cleanliness and stimulation. Massage provided by tooth brushing is superficial indeed, as compared to that produced by sugar cane.

Sebrell et al³⁰ write on Haitian children: "Well developed teeth with conspicuously infrequent caries are repeatedly noted in children and youths. Whereas chewing sugar cane is common, there is little use of candy, carbonated drinks and other confections . . . The diet is, however, high in starchy foods . . ."

The essayist, unaware of the work carried out by King, has obtained good results in treating 32 patients with gingivitis by combining scaling and sugar cane therapy. He feels that physiological stimulation may be more important than the detergent action aimed at by King's technique of sugar cane gnawing. He has been recommending more tearing action for the incisors and maximum function of the molars by using thicker sticks than King, and the native way of cutting the sticks by a tearing movement of the front teeth.

The writer, after losing accidentally a lower first molar, has succeeded during 20 years in preventing exfoliation of the antagonist and migration of the adjacent

molar through the chewing of sugar cane on the affected side.

Another imported item, the gum of the chicle, objectionable as it may be from the point of etiquette and aesthetics and for a number of caries and divorces it may have caused, by providing some function to the "civilized jaws", has been fighting a rearguard action against the destructiveness of anergonicity.

After all, teeth, saved laboriously from caries, are, painful irony, sacrificed in large number by the orthodontists for the future alignment of their malposed brothers.

Thoma³¹ thinks that, as a result of civilization, human jaws are becoming shorter which explains the frequent occurrence of impacted teeth. He writes: ". . . It is the belief of certain scientists that in a few thousand years the human dentition will be reduced from 32 to 24 teeth."

Can dentistry not try to reverse the trend? Can nothing be done in view of prevention?

King²⁵, after showing the beneficial action of vigorous chewing, as demonstrated by a large number of investigators sadly comments: "It may be pointed out, however, that with a few or no exceptions serious attempts to put this theory to the test had hitherto been conspicuously avoided . . ."

Public Health Dentistry has somewhat been lax in enforcing on the public the physical changes in diet which would be beneficial for its oral health. In collaboration with the food industry such a change can be brought about by the prescription method which gives good results with Jay's diet. Such a step will allow the dentist to guide his patients in the use of foods with the proper dynamic properties in view of a desired therapeutic or preventive effect.

The most important step in launching such a program will be to classify the various foods made available according to their masticatory demand expressed in kgs-loads necessary to reduce them into the proper bolus.

Yurkstan and Manly³² tried such a classification by an indirect method, which lacks accuracy. Brudevold³³, by inserting under artificial teeth small strain gauges connected with an electronic machine tested 19 different foods. He found the range of forces required to chew a mouthful of different foods varying from 72 kgs for dried apricots to 271 kgs for raw carrots. A food company in New York is actually carrying out research work along the same lines through the use of a "texturometer".

An accurate index may then be available to the profession before long. So, careful experimental evaluation and clinical studies will make it possible for, let us say, the periodontist to prescribe for a given case a diet such as the following:

- Breakfast:** Cereal X
1 raw carrot
2 slices of stale dark rye toast
- Lunch:** 1 serving of dry beef
1 roasted corn
4 sticks of sugar cane
Sugar free chewing gum
- Supper:** 2 slices of dark rye toast
2 chicken leg bones
4 sticks of sugar cane
(diet of 3,000 chewing kgs to be supplemented by the ordinary diet)

There is already on the market a cereal of high ergogenicity. Industry could supplement bones, canned or frozen.

It would be worth while to incorporate a study of ergogenic diet on a long term experiment, like the Burlington one, to evaluate its preventive effect on periodontal diseases as well as on mal-occlusion. A married couple, consisting of one partner with a small jaw and the other with large teeth might, conceivably have offspring inheriting those traits from both of them and thus present with marked crowding of the teeth. It would be interesting to attempt myotherapy from infancy, by the use of a special nipple and then carry on the experiment throughout childhood by an ergogenic diet.

CONCLUSION

Commenting on the importance of oral hygiene, Campbell²²⁽³⁾ notes: "It requires . . . as a prime essential, ample development of the jaws and this implies that they shall be adequately exercised from birth until the final eruption of the wisdom teeth . . ."

It is, indeed, the responsibility of Dentistry to make the public aware of the problem involved and to take action in reversing the trend from the "puree" type of food to a dynamic masticatory adequate diet. The scope of the problem is outlined by the pessimistic views of Hooton as quoted by Price¹²⁽²⁾: "I firmly believe that the health of humanity is at stake and that, unless steps are taken to discover prevention of tooth infection and correctives of dental deformation, the course of human evolution will lead downwards to extinction . . ."



ITEMS OF AN ERGOGENIC DIET

1. Raw Corrot.
2. Sugar cane (above) natural form
(below) peeled and cut sticks.
3. Ripened and toasted corn.
4. Celery.
5. Dry apricots.
6. Whole grain cereal.
7. Whole grain bread.
8. Sugar free chewing gum.
9. Chicken bones.

SUMMARY

Two types of diet are discussed from the point of view of their physical aspect and their demand on the masticatory apparatus: the anergonic and the ergogenic (terminology proposed by the essayist).

Their relationship to dental disorders, caries, periodontal diseases, and malocclusion is studied: the ergogenic diet of hard, chewy food is shown to be conducive to good oral health, whereas its opposite, the anergonic diet, leads to dental disorders.

Large scale use of the ergogenic diet to control certain dental diseases is recommended. A method of prescription by dentists to guide patients in the choice of foods with the proper dynamic properties is submitted.

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The Temporomandibular Joint and Its Importance To The Prosthodontist

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There is no doubt that one of the most widely written about subjects found in the dental literature is the temporomandibular joint. Its anatomy and function have been theorized, discussed, and dissected for the past four decades, with apparently no definite conclusion having been reached.

The purpose of this paper is an attempt to review the most recent literature on the subject, and thereby arrive at some basic understanding of the issues at hand.

The importance of the temporomandibular joint to proper function of the masticatory organ need not be dwelled upon at this time. We know that of the various factors influencing the chewing mechanism, the teeth and their anchor tissues, the muscles, and the temporomandibular joint must all be in perfect harmony to obtain the ultimate in masticatory efficiency.

The only way we can hope to restore the oral organ to a physiologically functioning unit is by a thorough knowledge of the physiology and anatomy of this triad. Students in Dentistry, from the outset of dental school, are taught the morphology and anatomy of the teeth in a course called dental anatomy. The muscles of mastication are dissected for us and

memorized by us in our general anatomy course, and the temporomandibular joint is mentioned to us in passing. There is never an attempt to impress upon the student the importance of these three factors being in complete anatomical and physiological harmony.

Once disharmony occurs, there is first a breakdown of the dental tissues. Restorations are then placed and no care is taken to ensure us of the physiologic harmony with the muscles of mastication and temporomandibular joint. The muscles, due to their anatomical configuration have the capabilities of accommodating themselves temporarily to this new situation. The temporomandibular joint, however, can never adapt itself as readily to this disharmony, and breakdown and pain may ensue.

THE ANATOMY OF THE TEMPOROMANDIBULAR ARTICULATION

The temporomandibular joint consists of two parts; the superior joint between the articular disc and the glenoid fossa of the temporal bone, and the inferior joint between the condyle of the mandible and the articular disc.

THE GLENOID FOSSA

This portion of the temporomandibular

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joint is an integral part of the temporal bone, and is situated anterior to the tympanic bone. It is composed of a concave articular fossa and convex articular eminence.

Medially the articular fossa narrows considerably and is bounded by a bony lip which leans against the angular spine of the sphenoid bone.

Laterally, the bony configuration usually varies from a narrow low ridge to one that just disappears. This variation, as will be shown later, affects the movement of the mandible in lateral excursions.

The posterior wall of the articular fossa is elevated to form a ridge.

Anteriorly, the articular eminence completes the anatomical shape of the glenoid fossa and varies in shape, angulation, and height in different individuals.

The entire articulating surface of the temporal bone and condyle is covered with a layer of fibrous tissue. This tissue is thickest at the posterior slope of the articular eminence. At this point it would be beneficial to clarify a general misconception of these component parts of the temporomandibular joint. The articulating surfaces are not covered throughout by hyaline cartilage, but by an avascular fibrous tissue which may contain a number of cartilage cells. This is primarily due to the fact that these tissues are under constant pressure during function. With an increase in function there usually occurs an increase in the number of cartilage cells. It is because of this increase in number of cartilage cells that the term fibrocartilage is sometimes used in describing the articulating surfaces of the joint. In general, however, the surfaces are covered with fibrous tissue bathed in synovial fluid.

THE ARTICULAR DISC

The articular disc is a firm, oval, fibrous plate of varying thickness. The thinnest part of the articular disc is in the centre of the disc, increasing in thickness anteriorly and posteriorly. The thickness of

the articular disc will vary with the prominence of the articular eminence — the more prominent the articular eminence, the thicker will be the anterior of the articular disc. Posteriorly, the disc becomes continuous with a layer of loose vascularized connective tissue which fuses with the posterior wall of the articular fossa.

The avascularity of certain parts of the fibrous tissue covering the different parts of the temporomandibular joint and central part of the disc, is proof that there is a great deal of pressure in these joint areas.

The head of the condyle varies in shape from one individual to another. It is wider in a bucco-lingual direction than it is in a mesio-distal (antero-posterior) direction.

LIGAMENTS CONNECTING VARIOUS COMPONENTS OF THE TEMPOROMANDIBULAR JOINT

The temporomandibular ligament is by far the most important external ligament connecting the various parts of the temporomandibular joint. It is attached to the fibrous capsule of the lateral surface of the articular fossa, condyle and eminencia. It is also fused to the medial, lateral and anterior circumference of the articular disc. Posteriorly the disc and fibrous capsule of the temporal fossa are connected by a very thick but loose layer of areolar connective tissue.

At this point it should be noted that the joint between the temporal fossa and disc is very loose, for the purpose of allowing sliding and twisting movement of the disc during articulation. The attachment between the condyle and disc is very tight permitting only hinge movement between the condyle and articular disc. The disc appears to be tightly bound to the condyle by very short fibers functioning as collateral ligaments.

ACCESSORY LIGAMENTS

The sphenomandibular ligament arises from the angular spine of the sphenoid

bone and is directed downwards and outwards to insert in a fan-like fashion on the mandibular lingula and its surrounding area.

The stylomandibular ligament arises from the styloid process and styloid ligament to insert into the inner angle of the mandible.

Ligaments, like connective tissue, cannot withstand a permanent stretch. The ligaments only limit the extent of the various movements; they do not guide them. They may however guide them in their most peripheral movement. They are but the checkers and restrainers of the joint, the permanent stability is ultimately obtained and maintained by the musculature.

MUSCLES OF MASTICATION

I will not at this time enter into a detailed discussion on the muscles of mastication. The elevators of the jaw are; 1) Masseter, 2) Temporalis, and 3) Internal Pterygoid. The depressors are the muscles originating from the hyoid bone and are; 1) Digastric, 2) Mylohyoid, 3) Geniohyoid. The protractors are the external pterygoids. The retractors are the temporalis, internal belly of the masseter, and infra hyoid.

The muscles of mastication are the initiators of movement in the temporomandibular joint. The external pterygoid inserts into the heads of the condyles; its fibres run at right angles to the condyles and hold the condyles in juxtaposition with the articular disc and eminentia. It is directly opposed by the posterior fibers of the temporalis muscle. The latter two muscles combine to give stability to the joint and hold the joint in equilibrium.

There are some who believe that the external pterygoid is also directly inserted to the articular disc and is the prime factor in sliding the disc concomitantly forward with the condyle. Recently Sicher has indicated that the sliding forward of the disc is not due to this type of anatomical arrangement. One can observe the

sliding movement of the disc on a cadaver — which occurs without contraction of the external pterygoid. The movement is due to the ligaments connecting the disc to the condyle, so that when the condyle moves forward the disc does so too. The external pterygoid, however, serves as a balancing muscle rather than a protractor. When the jaws are forcibly closed with the food in between them, the condyles and disc may at times be on the articular eminence; hence should there be an immediate closure with the condyles snapping back into position, possible damage to the disc and joint may occur.

SENSORY SUPPLY TO THE TEMPOROMANDIBULAR JOINT

One of the main nerves innervating the temporomandibular joint is the auriculo-temporal nerve. Its numerous ramifications enable us to explain why in many instances we do not feel joint pain when all the signs and symptoms lead to it. This is due to the plexiform arrangement which provides diverse sensory nerve pathways for reflex pain impulses.

The lingual nerve, too, supplies the temporomandibular joint and pain from the joint may be expressed in areas of its distribution — that is, the anterior two thirds of the tongue and the mucous membrane of the floor of the mouth. Subsequent dryness and burning sensation may occur in conjunction with temporomandibular joint pain.

I have attempted to give a brief description of the temporomandibular joint so that I may now discuss the actual movements and function of the condyle within the joint. The condyle in essence is capable of producing two types of movement.

1) A rotatory or hinge in the inferior compartment of the joint. (disco-condylar)

2) A sliding or translatory movement which takes place in the superior compartment of the joint. (the disco-temporal)

The rotation or hinge movement of the condyle occurs around a horizontal axis, which passes through the heads of both condyles. This has been an important concept to present-day dental practice. We now know that the closure is in effect a hinge closure. Dr. Ulf Posselt has shown a pure rotational movement (i.e. no anterior condylar shift) of up to 20mm on some patients. Dr. Sicher claims that two thirds of the opening jaw movements can be made on pure rotation. Any further opening is limited by the presence of the temporomandibular ligament and would require a sliding movement.

Using this theory, we attempt to restore the oral organ so that centric relation and centric occlusion are in harmony. Centric relation is the posterior position of the condyles in the glenoid fossa from which rotational movements can be made.

Centric occlusion is the simultaneous interdigitation and contact of the posterior teeth when the jaw moves in harmony with centric relation. In the jaws' movement to centric occlusion, there is no deviation of the mandible in the path of closure.

Any deviation laterally or anteriorly from the path of centric relations closure of the mandible occurring when the patient is going from rest position to final occlusal position, is indicative of a forced position. Hence the interdigitation is not a centric occlusion, and regardless of how well the teeth intercusps the occlusion is an acquired position, and should be termed Acquired Centric Occlusion.

The rest position of the mandible is not dependent upon the teeth but solely upon the tonus of the musculature. When the mandible is in rest position it opens anteriorly or on rotary hinge movement. The tonus of the muscles is only slightly variable, and in rest allows the mandible to rotate anteriorly. In the motion from rest position to cuspal interdigitation there is none or little translatory movement.

The ideal position of the condyle in rest position, is opposite the posterior slope of the articular tubercle and not in the deepest part of the articular fossa. The ar-

ticular disc aids in stabilizing the position of the condyles by being interposed between the condyle and articular fossa. The presence of the articular disc and its varying thickness explains why the head of the condyle is usually in the same relationship to the articular tubercle in different individuals, despite the variations in the depth of the fossa.

It must be remembered that due to its anatomical configuration, the articular disc can only give relative support to the condyles in their centric relation. Hence the proper positioning of the teeth is necessary to prevent the muscles of mastication, (in essence the elevators) from pulling the mandible and condyle too far posteriorly in the articular fossa. Thus we see why, when there is an overclosure of the mandible due to faulty occlusion, temporomandibular joint pain may occur.

When the plane of occlusion is such that there is contact of the opposing members of the jaw prior to their true centric occlusion, we have a situation in which the condyle will be placed closer to the articular eminence. With this situation pain may occur in the temporomandibular joint, and breakdown of the supporting dental structures may result.

The importance of muscular action in determining rest position of the mandible is noted when one observes the variations that can occur when attempting to record the rest position. Should the head be held slightly forward from the vertical position, the space occupied by the cervical viscera is narrowed, and the compressed tissues push the mandible slightly forward and upward. The reverse is true if the head is bent backward; the tissues from the mandible to the clavicle and sternum, especially the skin and fascia, are stretched, and tend to pull the mandible down and open, a given posture must be assumed when attempting to record the rest position of the mandible.

Sliding or translatory movement occurs with the condyle and disc sliding along the temporal bone onto the articular eminence. This movement can be either symmetrical, or asymmetrical, and occurs

in the superior compartment of the joint between the articular disc and the articular fossa and eminence.

By asymmetrical movement, I mean the lateral shift of the mandible. Here we bring into play another axis, an almost vertical one, which is inclined slightly downward and backward. This axis is through the horizontal axis of the condyle and is the axis about which the condyle rotates. The other condyle will slide down the articular eminence.

Because the vertical axis is slightly posterior to the actual condyle, and does not pass through it, we will get a movement of this condyle during the lateral shift — this is known as Bennett movement. The condyle may move outward and downward, outward and upward or just directly outward. Its actual path will depend upon the lateral lip of bone previously discussed. If it is present and noticeable, the condyle will go outwards and downwards, if it is absent the condyles will just go outwards and if there is lack of formation of the lateral wall of the articular fossa the condyle may go outwards and upwards. This movement will also be dependent on the limitation placed on it by the ligaments.

It should be noted that while the external pterygoid on one side contracts pulling the condyle forward and medially the other condyle is held in place by retracting fibers. It is the slight relaxation of these fibers that allows the condyle to make the slight Bennett shift.

SYMMETRICAL PROTRUSION AND RETRUSION

Symmetrical protrusion of the mandible without the influencing factors of the dentition is a simple translatory movement of the condyle axis and disc under the articular eminence. Forceable retrusion is unphysiologic, with retrusion of the mandible as active a movement as protrusion.

The maximum protrusive position that the condyles can obtain is on the anterior slope of the tuberculum articulare. In

some persons it seems that the mandible can make an additional opening solely by means of rotation around a transverse axis through the condyles.

I have attempted to show that the masticatory mechanism is not a simplified entity. Properly restored teeth are not in themselves a guarantee to chewing efficiency. On the contrary, the complete mechanism depends upon a harmonious relationship, between the temporomandibular joint and its integral components, the muscles of mastication, the teeth, and their supporting tissues. Breakdown of any of these separate parts results in a discontinuity of the harmonious relationship, and eventual pathology or pain to one or more of the component parts of the masticatory mechanisms.

We have concerned ourselves solely with the teeth, completely forgetting that they are but a segment of a more complex picture. We must in restoring the dental tissues take into consideration the effects that these restorations will have upon the remaining parts of the chewing mechanism. Any improper restoration, no matter how small it may seem at the time, may manifest itself at a later date. The general health of the patient may, at the given time, be excellent, and thus his body defences can cope with this abnormal situation. However, in the years to follow should there be a change in systemic condition, the body defences may be unable to cope with this situation, resulting in a possible breakdown of the masticatory mechanism.

I am now going to discuss some of the etiology of temporomandibular joint pain that can be solely attributed to poor prosthetic dentistry.

1) Faulty occlusal contact of but one simple inlay, can disrupt the whole coordinated interdigitation of the maxillary and mandibular teeth. The mandible will be forced to shift in an attempt to locate a closed position. In so doing, we may expect a counteraction, and this sometimes takes place with the breakdown of more tooth structure, alveolar bone, temporomandibular joint pain, or muscular

spasms. As a result, normal physiologic harmony has been disrupted and the most favourable environment has been disturbed.

2) Individual high crowns and over-upted molars.

Here the mandible may be forced downwards during the various excursions, thereby straining the capsule and ligament. The condyle head will begin to leave the uppermost path of the eminencia, setting up an unfavourable environment. The condyles usually take a zone way during protrusive and lateral movements; these movements are cushioned by the anatomical configuration of the articular fossa and eminence. Should it be forced to take an abnormal path, temporomandibular joint syndrome may develop. Anterior or posterior displacement of the mandible may occur if the inclined planes of the posterior teeth are improperly placed.

3) Premature contact of the anterior teeth may result in subluxation of the condyles. This is due to incorrect timing of the external pterygoids and temporalis muscles. There is a split timing action when the external pterygoids relax, and the temporalis contracts; any premature contacts may initiate muscular spasms. In a relatively small per cent of people T.M.J. troubles may occur.

4) Patients with deep vertical overbites and possibly closed vertical dimension must bring their jaws to an abnormal position during incision. They thus place the condyles in a position of imbalance and strain.

5) Occlusal rehabilitation is being performed with a complete lack of knowledge of the neuromuscular balances. Increasing the vertical dimension will result in temporomandibular joint troubles. Any increase from normal, of the vertical dimension, even if the teeth are in proper occlusal contact may result in temporomandibular joint pain.

In cases wherein the tolerances of the joint are exceeded a pathologic entity of degenerative joint disease may ensue.

This degeneration has in some cases proceeded down the neck of the condyloid process.

SUMMARY:

I have attempted to explain the separate components of the temporomandibular joint as they are seen by the anatomist. The second part of the paper is devoted to the application of these anatomical structures to movements and function of the temporomandibular joint and its importance to the prosthodontist.

CONCLUSION:

The masticatory mechanism is a complex organ comprising many separate entities. The proper function of one part depends on the health and function of the others. Hence when treating any one segment of this organ, one must take into consideration, that they are in harmonious physiological and anatomical relationships. The temporomandibular joint, the muscles of mastication, the teeth, and their supporting structures were developed so as to function in unison.

One should keep in mind, when treating any one part, that it is of prime importance to maintain the acceptable relationship.

This paper was written at the University of Illinois, College of Dentistry, Department of Crowns and Fixed Partial Dentures.

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The author wishes to express his sincere appreciation to Drs. Stallard, Stewart and Tylman for their guidance and aid in completing this paper.

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Bone*

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The daily practice of dentistry is more intimately related to bone tissue than most other branches of the medical sciences. Because of this, it is worthwhile to review some of the fundamental aspects of bone anatomy and the response of bone to various irritations, so that one may be able to appreciate more the basic nature of this tissue and how it adapts itself to the insults often put upon it by dentists.

BONE TISSUE

Bone is a calcified connective tissue which gives the vertebrate animals their rigidity and also aids their means of locomotion. Because it is a hard dense connective tissue and on purely mechanical grounds, able to withstand considerable trauma, sensory and special organs, such as the brain and the spinal cord, are either encased in bone, or protected in some way by bony boundaries such as the eye and the inner ear. Teeth are special organs which for functional purposes need to be encased in a rigid support such as bone. In the animal kingdom the loss

* This paper is based on a lecture given under the auspices of the Department of University Extension and Adult Education, and the Faculty of Dentistry of the University of Manitoba to the dental practitioners of Manitoba.

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of teeth means starvation and death to those animals which have to depend upon specialized teeth for their existence (Pedler, 1956).

Like any other connective tissue, bone is composed of cells, intercellular fibres and an amorphous ground substance. It is these latter two, the fibres and the ground substance, which form the organic bone matrix which differs from other types of connective tissue by the addition of certain inorganic salts. These either permeate or are deposited in the bone matrix. The organic connective tissue thus becomes modified into hard or calcified bone. Once the cells of bone tissue, osteocytes, become trapped in the hard unyielding calcified matrix, their reaction to external influences is less volatile than those of ordinary connective cells. Likewise, bone tissue itself will be more inert than other types of connective tissue.

On the basis of the relationship of the osteocytes one to another, and the structural pattern of the intercellular fibres, bone tissues can be classified into the following types.

Woven Bone describes well the bone found in the foetus and during the first year of life, in certain pathological conditions, in the callus of a fracture and in a healing tooth socket. In fact, when-

ever or wherever bone tissue is being laid down rapidly, it is in the form of woven bone (Fig. 1).

In woven bone the osteocytes are not regularly distributed but occur at random. The bundles of collagenous fibres may be either coarse or fine and weave their way around the osteocytes in all directions. In fact instead of a definite pattern there is irregularity. The osteocytes themselves vary greatly in size and shape. The matrix stains unevenly and is often more basophilic than lamellar bone. This is the immature bone as described by Ham (1957) and Weinmann and Sicher (1955). Immaturity suggests that this tissue will eventually change to the bone found in the adult skeleton; that is, it will mature. But this, of course, is not the case. Woven bone eventually becomes resorbed and replaced by lamellar bone.

Lamellar Bone, as the name implies, appears as one layer had been added on to the next, as in plywood. This is the most perfect and beautifully designed tissue. It is the bone of the adult skeleton. The osteocytes are oval-shaped cells lying in lacunae within the calcified matrix. They occur at regular intervals not only from each other in the same lamella but also from those in neighboring lamellae (Fig. 2).

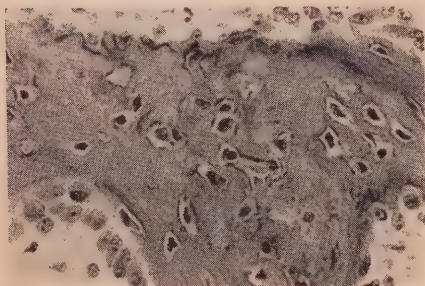


FIGURE 1

A decalcified section of woven bone. Notice the irregularity of the positions of the osteocytes. The coarse collagenous fibres do not show with this stain which is H & E.



FIGURE 2

An undecalcified section of lamellar bone. Notice the regularity of the layers and the spacing of the lacunae from which the osteocytes have been lost.

The cytoplasmic processes of the osteocytes, lying within tiny canaliculi, link up with neighbouring osteocytes in the same and adjacent lamellae (Fig. 3). The diffusion of metabolites would be difficult, if not impossible, through a solid calcified matrix and it is the canaliculi which aid in the exchange of nutrients and waste products.

Each lamella is separated by a collagen-free zone which is called an incremental line. The collagen bundles in a lamella run parallel to each other and at 30° to 40° to the incremental lines. In the adjacent lamella the collagen bundles run at right angles, so that a herring bone effect is produced.

There is a limit to the distance any given osteocyte can be away from the nutrient blood supply if it is to remain alive. To overcome this difficulty the Haversian system is designed. It can be visualized as flat plywood boards bent into a circle (Fig. 4). The central core becomes the Haversian canal containing the blood vessels. These pass at close intervals through the bone, enabling osteocytes to be within 0.1 mm. of the blood supply. Strength is still maintained in this system.

In the maxilla and the mandible,

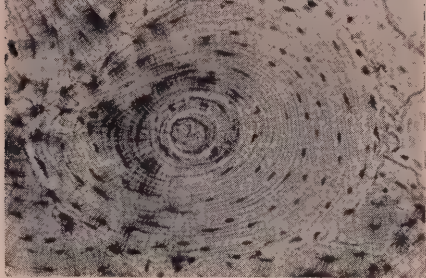


FIGURE 4

An undecalcified section of lamellar bone showing an Haversian system with a central Haversian canal.

lamellar bone is found irrespective of whether compact or cancellous bone is being examined. Compact and cancellous are anatomical terms used to describe the gross appearance of bones.

Bundle Bone is a term used by Weinmann and Sicher (1956) to describe the bone lining the tooth socket into which the periodontal membrane fibres are inserted. The bone has apparent lamellation as evidenced by incremental lines, but the collagenous fibres of bone all run in the same direction, unlike lamellar bone where the direction is changing in each lamella. They also run at right angles to the attachment of the periodontal membrane fibres. The part of the periodontal membrane fibres which enter the bone and are attached in some way are known as Sharpey's fibres (Fig. 5).

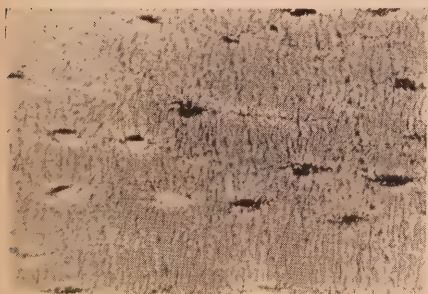


FIGURE 3

A decalcified section of lamellar bone stained with Schmorl's picro-thionin. It shows the canaliculi radiating from each lacunae and connecting with neighbouring lamella.

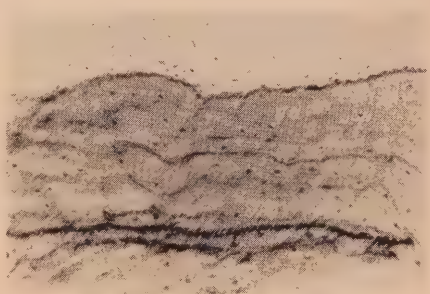


FIGURE 5

A decalcified section showing bundle bone adjacent to the periodontal membrane. Stain H & E.

BONE BIOLOGY

In bone, as in other tissue, mature cells age and are replaced continually by new cells. Obviously the rate of cellular turnover will vary somewhat in the various bones of the body and will be dependent upon endocrine and nutritional factors as well as functional needs. It may be possible that the bone tissue in the jaws is probably being changed at a more rapid rate than in other bones because of frequent functional demands on it by the teeth via the periodontal membrane. Renewal of bone involves both bone formation and bone resorption.

Bone Formation occurs by a similar process, whether it is laid down as spicules in the mesenchyme, around a cartilagenous model, or as appositional growth in the adult (Weinmann & Sicher, (1956).

Osteoblasts differentiate from mesenchymal cells or fibroblasts. Pritchard (1952) describes a complicated process of histochemical changes that occur in these cells during maturation from a primitive cell into an osteoblast. Changes also occur in the adjoining connective tissue and at first a band of organic matrix or osteoid tissue is laid down which soon becomes calcified into bone tissue. According to Pritchard (1952) the evidence is strongly in favour of the osteoblast taking a very active part in the formation of this organic matrix by secreting precollagen which soon matures into collagenous fibers. Osteoblasts elaborate alkaline phosphatase and possibly other substances essential for subsequent calcification. During this process, the osteoblasts become trapped between the collagenous bundles and transform into the rather inert osteocytes.

For further bone to form and growth to occur a new generation of osteoblasts has to form from the connective tissue adjoining the already formed bone. These cells lay down another layer of organic matrix and this process goes on until the bone reaches its final size.

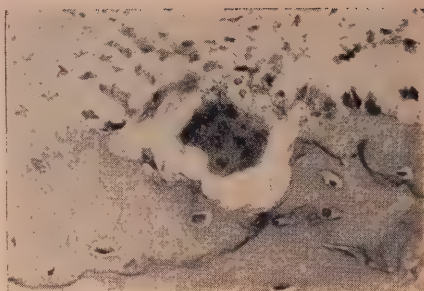


FIGURE 6

A decalcified section of bone showing an osteoclast lying in a Howship's lacunae. Stain H & E.

Bone growth, therefore, is one of apposition, a continual laying down of more organic matrix which subsequently is calcified to become true bone. However, for bones to grow to their adult size, it is not enough just to add layer upon layer. Removal of some of the bony tissue also has to occur for remodelling to take place.

Paradoxical as it may seem, therefore, *Bone Resorption* must also occur if bones are to grow. Bone resorption entails the removal of the inorganic salts, ground substance, the collagenous fibres and the osteocytes all apparently at one and the same time. This breakdown of bone has set a real problem because no one theory answers the question of how bone is removed in toto and not part by part.

There seems strong evidence that osteoclasts are so closely involved in the removal of bone that their presence is no mere accident, yet how they work is still a mystery. The osteoclast is a large, irregularly shaped cell, with 12 to 20 or even more nuclei. Sometimes a brush or striated border may be observed (Ham, 1957). Apparently the osteoclasts resorb bone and in this process they form small cavities, called Howship's lacunae. (Fig. 6).

New bone is laid down layer upon layer. If there is a cessation of formation



FIGURE 7

A decalcified section of bone showing straight darkly staining resting lines. Stain H & E.



FIGURE 8

A decalcified section of bone showing darkly staining scalloped reversal lines. Stain H & E.

for some time, the free and inactive surface of the bone is basophil. If later more bone is added, a straight or slightly curving or undulating basophilic line will remain. These are called resting lines (Fig. 7).

Reversal lines are present where bone resorption has taken place and new bone has been superimposed upon a number of concavities or Howship's lacunae. In this case, the basophilic line is a scalloped one. The convexities face the old bone whereas new bone is formed in the concavities (Fig. 8).

BONE BEHAVIOUR

Bone differs from other types of connective tissue in that it is calcified. Because of this environment the cells and the intercellular substance behave differently from other connective tissue in pathological processes.

Infection of Bone — Fish (1957) describes the appearance of various zones that may be found around an area of infection produced experimentally in the jaws of animals. Similar findings were made by the author in an experiment on the rat tibia. A small hole was drilled in the tibia with a #2 round bur and a small piece of cotton wool dipped into a broth culture of staphylococcus was in-

serted into the hole and left for nine days. It was noticed that the osteocytes in the immediate vicinity of the infection became necrotic, disappeared and left empty lacunae (Fig. 9). A little distance away there was an intermediate area where some of the osteocytes were still present in the lacunae and some were not (Fig. 10). Toxic products from the acute infection diffuse radially through the bone via the canaliculi, the infection becoming less intense further away from the central zone of necrosis. A similar reaction occurs in other types of connective tissues during an acute infection.

As far as one can tell in decalcified sections, no striking morphological changes take place in the collagenous matrix during infections. However, once the osteocytes have been destroyed, the tissue is no longer viable and is removed in some way or another from the body. In this experiment, osteoclastic resorption was taking place roughly at the junction of the viable and non-viable osteocytes. Apparently, the osteoclast is unable to exist in toxic surroundings so that bone resorption will occur around the periphery of the infected lesion. The sequestra that are formed will consist of dead bone. Beyond this the toxic irritation has become less intense and there is stimulation of bone tissue so that woven bone has begun to form.



FIGURE 9

A decalcified section of a rat tibia following an acute infection with staphylococcus. It will be noticed that the lacunae are all empty. Stain H & E.

Bone Repair—To study this process, a small groove was cut in the tibia of an adult rat and healing was allowed to progress for nine days (Fig. 11). At this time in some areas a blood clot was still present but most of the gap was occupied by primitive connective tissue, consisting of a loose network of stellate shaped fibroblasts with plump lightly staining nuclei, and many small blood vessels. The supporting connective tissue appeared to be of a very fine, loose collagenous type. Organization of the tissue began at the base of the groove and jutting out from

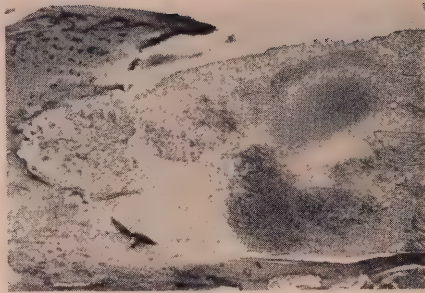


FIGURE 11

One end of a groove cut in a rat tibia after nine days of healing. There is organization of some of the blood clot and formation of woven bone. A decalcified section, stained with H & E.

the tibial lamellar bone there were many trabeculae of newly formed woven bone (Fig. 12). The woven bone was in an active stage of formation, as indicated by the darkly staining, round active osteoblasts along the surface of the bony spicules.

Although the groove in the bone was not cut under aseptic conditions, the pattern of healing was similar to that occurring in tooth sockets following extraction (Radden, 1959). As one might expect, the wound was filling in from the base and the sides.

Bone Under Pressure—An elastic band was tied tightly around the tibia of a rat. In the placing of the elastic band only one side was against bone; the other side was passed around muscle and this was not in direct contact with bone.

After nine days, the rubber band had made a smooth groove in the tibia. At the base of the groove there was a dense fibrous tissue band crossing from one side of the groove to the other (Fig. 13). At the edges where the tissue was attached to the lamellar bone, osteoclastic resorption was taking place. Beneath this dense fibrous tissue band there was a heavy deposition of newly formed woven bone extending into the narrow cavity beneath the groove cut by the rubber band (Fig.



FIGURE 10

A decalcified section of a rat tibia lateral to the previous illustration, showing some lacunae empty whilst others have osteocytes present. Stain H & E.

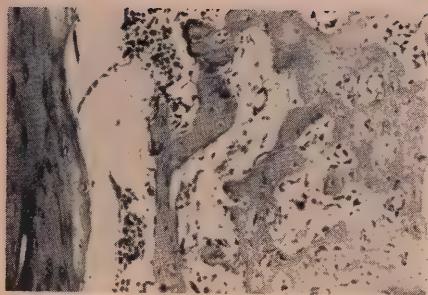


FIGURE 12

A decalcified section of rat tibia. At the side of the groove can be seen lamellar bone whilst laterally there is newly formed woven bone. Stain H & E.



FIGURE 14

A decalcified section of rat-tibia showing the proliferation of woven bone into the marrow cavity beneath the groove formed by a rubber band. Stain H & E.

14). Intense osteoblastic activity was present in this area where bone repair was taking place in an attempt to re-strengthen the tibia.

SUMMARY

Bone has a very limited repertoire of reactions. Bone tissue is formed by osteoblasts and it depends on the particular situation whether the bone will be woven, bundle or lamellar. Both in health and disease when bone is formed these are the only variations that are possible. Likewise when bone is removed, there is only

one way and that is by osteoclastic resorption. Again, no matter what type of bone tissue is involved or whether it occurs during physiological remodelling or during abnormal conditions, bone is removed by osteoclastic resorption. In health a balance is struck between bone formation and bone removal.

With these principles in mind, therefore, the understanding of repair following extraction, healing of a dry socket, orthodontic treatment and chronic destructive periodontal disease becomes easier. Nevertheless, there are still problems in bone biology which require clarification and further investigation.

ACKNOWLEDGEMENTS

I am grateful to Mrs. J. Ashdown for her technical assistance.

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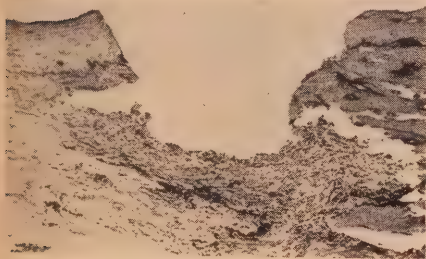


FIGURE 13

A decalcified section of rat tibia showing the groove produced by the rubber band. At the base of the groove there is a dense fibrous tissue band. Stain H & E.

EDITORIAL

Kindred Problems

The energy and effort devoted to effecting mutual and intelligent understanding of the problems of others is seldom misspent. Within the health professions dwells a unique sense of international responsibility that is unhampered by prejudices, competition or intolerance. This responsible attitude manifests itself in an enthusiastic willingness and desire to share new knowledge and experiences.

Naturally the recent trends in our country that have caused Canadian dentists serious concern have a reflected interest in the United States. It is equally reasonable that their problems are of sincere interest to us.

To discuss such kindred problems, the Board of Trustees of the American Dental Association solicited an informal conference with the Executive Council of the

Canadian Dental Association. Distinctly this meeting was not for the purpose of altering the policy of either Association but to bring precise details before the members of each committee.

It is believed by the Executive Council of the C.D.A. that this meeting represented an important opportunity of exchanging information and was most useful.

Similar conferences in the future are undoubtedly desirable and will expedite the successful achievement of our basic objectives.

Democratic and friendly discussions such as these are an emotional balm in a world fraught with inimical and hasty judgments based upon questionable reporting and suspicious behaviour.

The following is a special Dental Press news release from this conference.

Executive boards of the national dental associations of Canada and the United States met in joint session May 6 and 7 in Toronto to discuss long-range plans for meeting the rising demand for dental health care in both countries. It was the first joint meeting in the history of the two associations.

After examining the complex of professional, social and legislative trends now influencing the practice of dentistry in Canada and the United States, officials of the Canadian Dental Association and the American Dental Association agreed that:

—It is the responsibility of the profession to provide leadership in the field of dental health but the responsibility to provide more adequate and better distributed dental health services must be shared with all community agencies.

—The tardy recognition by public agencies and by large segments of the public of the importance of dental health now confronts the profession with the need to provide more dental personnel through educational institutions which have been inadequately supported for many decades.

—Many communities in both countries have failed in their obligation to take advantage of proven preventive measures such as fluoridation, which would bring about a profound improvement in the

dental health of future generations. Fluoridation of public water supplies is a safe, inexpensive and effective method for controlling dental caries and can provide as much as 65 per cent decrease in the incidence of this widespread disease.

—Adoption of such proven measures plus greater emphasis on dental health education of the public would permit the more orderly development and application of resources to meet public needs adequately.

—Expanded programs for the training of all types of dental personnel, particularly dentists, should continue to be strongly encouraged, and governmental and other agencies should be urged to provide funds — specifically earmarked — for such expansion.

—There is an immediate need for increased funds for broader dental research programs, and for the initiation of sound group purchase plans.

—In the planning of any dental care program, priorities must be established to provide maximum health education and treatment for younger age groups — the soundest approach to the long-range improvement of the dental health of the total population.

—Greater attention must be given to the integration of dental care into total health programs while maintaining high standards of dental service.

C.D.A. OTTAWA CONVENTION

"Audio-Visual Methods in Undergraduate Teaching"

This presentation will attempt to reveal some of the present-day methods used in undergraduate instruction. A dental student today is challenged by the ever-increasing store of information for him to assimilate and apply. Both the student and his faculty are taxed to capacity—one to learn and the other to assure learning. Effective modern aids, including closed circuit television, help both the student and his faculty to attain the optimum in undergraduate training.

BOOK REVIEWS

The Metabolism of Oral Tissues

A publication of the Annals of the New York Academy of Sciences. Volume 85, Art. 1.

Pages 1-499.

Editor in Chief: Otto v. St. Whitelock, March 29, 1960.

In the introduction of this book, Dr. R. F. Sognnaes makes the comment that "dental research is one of the best-kept secrets in modern science". This monograph effectively reveals some of the "secrets" of dental research. The monograph is a review of current knowledge of the principal tissues that are involved in oral pathology, including, specifically, the hard tissues of the teeth, the alveolar bone and the supporting tissues of the teeth involved in periodontal disease and malocclusion; the oral mucous membrane and the salivary glands. In a brief review, it is not possible to deal with each aspect covered. The reviewer shall limit his remarks to those sections which are nearest to his own interests and his work.

One of the best parts of this monograph deals with tooth tissues. Dr. A. E. Sobel elaborates on the relationship of tooth composition, body fluids, diet, and caries susceptibility. Dr. Sobel's main hypothesis is that a high phosphate diet produces teeth that are less vulnerable to caries because of their relatively low carbonate content. Experimental work in his and other laboratories has substantiated the cariostatic effect of phosphate. Interrelationships as with Vitamin D have still to be worked out. However, this work is significant and promises to have practical applications within the near future. The section dealing with the inorganic and organic components of tooth structure by Dr. Finn Brudevold is excellent. Dr. Brudevold emphasizes the differences in the composition of surface enamel, and dentin, as related to deeper layers of these tissues. For example, the concentration of fluoride in the surface of the enamel may be as much as ten times higher than in the sublayers. These fundamental observations regarding the different gradients at which elements occur in teeth are of clinical importance. The crystalline structure of the mineral components of dental tissues is presented by Dr. Otto R. Trautz. This work is fundamental for a better understanding of the crystal lattice structure of hard tissues. Interesting presentations are made by Dr.

David B. Scott and Marie U. Nylen regarding their work with the electron microscope; by Dr. Kreshover regarding the metabolic disturbances in tooth formation; and by Dr. Julian D. Boyd on dental caries and host metabolism.

Part three of this monograph deals with the salivary glands. Studies dealing with salivary gland proteases by Dr. Sreebny and salivary gland amylase activity by Dr. L. Schneyer and Dr. C. Schneyer and the section dealing with endocrine influence on salivary glands by Dr. Schafer and Dr. Muhler are interesting. The largest number of pages in this monograph devoted to a single subject deals with a study by Y. Ito on a salivary gland hormone. This chapter fills the gap in the needed exchange of information between investigators in America and other parts of the world. However, this presentation fails to adequately establish that parotin is indeed a hormone. A lack of corroborative evidence is another weakness in this section of the monograph.

The final section of the monograph is devoted to the periodontal tissues. Drs. Gould and Manner discuss the results of experiments designed to test the hypothesis that impaired collagen formation in ascorbic acid deficiency results in the accumulation of an unhydroxylated precursor. The discussion by Drs. Engel, Joseph, Laskin and Catchpole on "A Theory of Connective Tissue Behaviour: Its Implications in Periodontal Disease" is highly significant. This work is a summary of the studies of the past ten years in which the structure and behaviour of many kinds of mammalian connective tissues have been investigated. The report by Drs. Laskin and Engel dealing with the relationships between the metabolism and structure of bone with emphasis on citrate is very informative. Evidence is presented that this anion is of significance in the resorption and apposition of bone.

The material in this monograph is not only of interest to specialists in oral health, but is of general interest to biological science and will undoubtedly contribute to the pool of fundamental knowledge from which we all can draw. This monograph is one of the best published evidences that the qualitative and quantitative tempo of scholarly activities in dentistry has increased very significantly during the past decade.

Gordon Nikiforuk.

Endodontic Practice

Prepared by: L. I. Grossman

Published by: The Macmillan Co. of Canada Ltd.

Pages: 402. Price: \$7.50.

For the past quarter of a century Louis Grossman has been a noted lecturer and clinician in the field of Endodontics. In the fifth and most recent edition of Dr. Grossman's text, *Endodontic Practice*, which in the four previous editions had been entitled *Root Canal Therapy*, his success as a teacher in this field is exemplified by the precise and detailed manner with which he presents his subject.

As those who have read the earlier editions of this text are aware, Dr. Grossman discusses all the phases of dental therapy involved in diagnosing and retaining those teeth which manifest pulpal pathology. This includes pulp capping, pulpotomy, pulp mummification, pulpectomy, root canal treatment, and root resection. To these basic procedures the newer concepts of drug therapy, root canal instrumentation and management of luxated teeth have been added.

A presentation of clinical endodontics in a well organized and well illustrated manner however does not provide the total sum of Dr. Grossman's effort. A considerable portion of the text has been devoted to relating these various procedures to the basic dental sciences such as pathology, pharmacology, physiology, and bacteriology, for it is from these sciences that endodontics was initiated and it is through them that it will continue to evolve.

This book should be a welcome addition to the library of the dental practitioner, the dental student, and the dental instructor, for it provides an accurate and informative account of the field of endodontics by one of the men who, over the years, has provided much for its progress.

Calvin D. Torneck

Fluoridation—Errors and Omissions

Prepared by: P. R. N. Sutton.

Published by: Macmillan of Canada.

Price: \$1.45.

The main premise of the author is that endorsements to "the process of the mechanical addition of fluoride to water supplies . . . rely mainly on results published from five trials," and that these studies do not provide a reliable assessment of the efficacy of fluoridation. Using this premise, the author attempts to point out some real and some alleged "errors and omissions in experimen-

tal trials of water fluoridation." The author's premise is fundamentally in error.

The efficacy and safety of fluoridation as a significant public health measure is based upon scientific studies representing the widest variety of controlled conditions. The author of this book ignores the vast amount of positive findings from the epidemiological, biochemical, pharmacological, medical, water-engineering and dental literature. The latter publications are now sufficient in scope as to permit the case for fluoridation to rest more firmly on a fundamental understanding of the metabolism of fluorides than on the absolute experimental perfection of the clinical trials.

In discussing the five trials relating to mechanically fluoridated water supplies, the author makes no attempt to fairly judge if the relevant and irrelevant questions raised (and usually left unanswered) are of sufficient magnitude to outweigh the overall positive finding from these five studies. The author does not seem to recognize that although random sampling variation and examiner differences prevent any two studies from reporting exactly the same estimate of the degree of caries reduction from fluoridation, all studies do agree that the protection is real and is sufficiently substantial to be economically sound as a public health measure.

To attempt to set right all the questions raised by the author is impossible in a review since it would virtually entail re-writing the whole book and good books on fluoridation are already available (for example: Shaw, J. H., *Fluoridation as a Public Health Measure*, American Association for the Advancement of Science, 1954; Muhler, J. C., and Hine, M. K., *Fluorine and Dental Health. The Pharmacology and Toxicology of Fluorides*, Indiana University Press, Bloomington, 1959).

Since the observations made by Sutton for each of the five trials are very similar, the questions raised relating to only one of these studies, viz. Brantford-Sarnia-Stratford, will be commented on in detail.

Item 1. page 37, middle paragraph, reference to Hutton et al (1951). The numbers of children of the same age examined in the years 1944 and 1945 were very similar with the exception of the 9-year age group. From the unpublished data released at annual meetings in Brantford, the number of children examined in 1944 was 239, and in 1945, 319; making a total of 558 (not 608). The data in Table I (Hutton et al) were apparently combined by pooling the two years' results not by averaging the averages. However, the point is rather academic.

- Item 2. page 37, bottom of paragraph, reference to Ontario Health Department report. The date of water-fluoridation in Tables I and II was given as 1946 through a typographical error but was twice correctly stated to be June 1945 in the text referring to the Table. The small error in percentage reduction for seven-year-olds was also conceded. These points do not seriously undermine the usefulness of the review.
- Item 3. page 38, middle paragraph, re late commencement of National Health and Welfare Study and detection of caries protection for young individuals born prior to commencement of fluoridation. Despite the fact that the Department of National Health and Welfare began its control study nearly three years after fluoridation began, much worthwhile information was obtained and the effect of late commencement, if any, was to result in underestimation of the fluoride protection.
- Item 4. page 38, last paragraph, reason for selection of control cities. It seems clear that Brown (1951) gave adequate reasons for selecting Sarnia and Brantford.
- Item 5. page 39, second paragraph, re superior dental care in Brantford. The difference in level of dental care between the cities is factual as recorded by Brown (1952). This variation of numbers of teeth classified as F. rather than D. or M. does not fundamentally influence the D.M.F. tooth rate.
- Item 6. page 39, last paragraph, comparability of rates. As stated under Item 5, the dental condition of the children in Sarnia and Brantford differed in 1948 because a lower level of dental treatment in Sarnia resulted in higher tooth mortality. The tooth mortality rates thus differed but it does not follow that the D.M.F. rates differed. Brown's statement (1951) "by 1948 the Brantford data were not greatly different from those in Sarnia" is obviously referring to D.M.F. rates and hence quite valid. The differences in oral hygiene are also only remotely related to the D.M.F. rates under discussion.
- Item 7. page 42, concentration of fluorides. The fluoride content of the Brantford water supply was raised to approximately 1 p.p.m. in June 1945, and raised to 1.2 in February 1949. The Stratford water fluoride content is believed to have been in the order of 1.3 to 1.6 p.p.m. since 1917 when the wells were drilled. Naturally no analysis for fluoride was available prior to the beginning of the interest in fluoridation and early techniques for analysis were not as reliable as present methods. These facts have been recorded in the writings of the primary workers (Hutton et al 1951; and Brown et al 1951, 1952, 1953, 1954, 1956) and the differences in amounts from other writers might seem less 'strange' if they were merely acknowledged to be minor misquotations.
- Item 8. page 43, middle of page, re statement by Brown et al (1956). The statement is substantially correct with the exception that Brown's observational period did not begin until 1948; hence, is less than 10 years. The decrease in mean d.f. rates for the 9- to 11-year group in Sarnia between years 1948 and 1954 (Brown 1954) did not continue into 1955. There was a highly significant decrease over the period 1948 to 1955 (2.37 to 1.93) in Brantford and no significant decrease in Sarnia (2.50 to 2.31). In the same periods the mean d.f. rates for this age in Stratford remained nearly equal (1.66 and 1.65) and increased for other ages.
- Item 9. page 44, middle of page, re Table II; Ontario Department of Health Report. The printing of dashes rather than percentages for the control cities was to avoid confusing the Table with 'negative reductions' and in the case of the 9 to 11 d.f. figure to avoid emphasizing what was considered to be a spurious decrease. This judgement was borne out by the 1955 figures.
- Item 10. page 44, last paragraph, differences in reported rates between examiners. Different examiners give characteristically higher or lower rates upon examining the same individuals due to differences in skill, training and physical condition. Thus the differences quoted are no reflection on the design of the experiment or the care taken in the work. The strength of the double examinations comes through corroboration of caries trends in Brantford over the years and not through interchangeability of data.
- Item 11. page 45, significant fluctuations in controls. The important point is that for the controls the inter-year changes were upward trends or mere fluctuations (even though in some cases calculated to be beyond change), whereas in Brantford the change took the form of a highly significant continual downward trend.
- Item 12. page 46, first paragraph, larger percentage changes in control. There is no definite explanation as to why rates increased in Stratford and also in Sarnia over the ten years, but this may be a reflection of a general post-war increase in dental caries which has been seen in other areas. However, it is significant that in the various fluoridation experiments, e.g. in Brantford, Newburgh, Grand Rapids, etc. the shift has always been significantly downward in the fluoridated cities whereas the control city rates have remained about the same or in the case of Stratford, increased.

Item 13, page 46, last paragraph, smaller percentage decrease after longer fluoridation. As pointed out by Sutton himself on page 38 (middle paragraph) the fluoride protection for permanent teeth of the children ages 6 to 7 seemed to occur within two or three years after fluoridation began. Thereafter the yearly D.M.F. rates were subject to random fluctuation and the differences in percentage decrease of 69 per cent and 51 per cent are most likely a reflection of this inter-year variation.

Item 14, page 47, top paragraph. The quotation from the Ontario Government Report is taken out of context from a series of summary statements. The previous statement was to the effect that in Brantford there had been a significant decrease of about 60 per cent in D.M.F. rates. In the statement following as picked out by Sutton it was stated that 'no change' occurred in Stratford and Sarnia. It should be clear enough from the context that the words 'no similar downward change' were inferred.

Item 15, page 47, third paragraph, possible weighting effect. The critic is referring to a possible shift in age distribution within the group, e.g. a possible sampling shift within the 6- to 8-year age group so that certain years had disproportionately higher or lower numbers of 8-year-olds and hence higher or lower average caries scores. This is rather remote in that selection methods used by Dr. Brown were the same each year, moreover, very large shifts in age distribution would be needed to produce the significant differences to which P.N.R. Sutton refers.

In summary, Sutton and Amies have unearthed what has long been recognized as a fact—it is impossible to conduct and report an epidemiological study that cannot be criticized in retrospect. The 'errors and omissions' in the fluoridation studies that these authors report in no way invalidate the conclusion that water fluoridation is a safe and effective public health measure to reduce dental caries and is based on substantial, scientific evidence representing the widest variety of controlled conditions.

R. M. Grainger.

Drugs of Choice 1960-1961

Prepared by: Walter Modell, M.D., Editor and 47 Contributors.

Published by: The C. V. Mosby Co.

Pages: 958. Price: \$13.50.

Many of the drugs which are currently in use were unheard of twenty years ago. This rapid advance has brought numerous useful therapeutic tools as well as some which have been of doubtful value. Dr. Modell, in editing "Drugs of Choice 1960-1961," has recognized the need to pause and assess these drugs in the light of our experience with them. Some have withstood the test of continued use by virtue of their therapeutic value and low toxicity. Others have been discarded or relegated to a very specific field of usefulness.

By its title "Drugs of Choice 1960-1961" points up the continuing nature of this search and the fact that a volume written for use in 1960-61 will require further revision in 1962 when more information has been assembled. A number of the newer drugs are dismissed with such comments as "not enough experience has been gained" and "an evaluation will have to await the further passage of time." The dentist will be particularly interested in the chapters dealing with anaesthetics, antibiotics, analgesics, hypnotics, sedatives, and tranquilizers. Each is written by an expert in the field who has had broad clinical experience.

We in dentistry are subject to the pressure of detail men whose information can hardly be anything but biased in favour of their product. A volume of this calibre is an essential in assessing the merits of these claims since the writers have a totally impartial and objective view point.

Some of the drugs included in this book have little or no dental application, but those which do have been covered in a sufficiently detailed manner to give the whole picture of their activity. When everyone, through heavy demands upon his time, is looking to the condensed and abstracted form of enlightenment, such a book may seem heavy going. Unfortunately when we take this information in capsule form, we miss some of the essential ingredients for total understanding. "Drugs of Choice 1960-1961" is a valuable reference work.

J. F. Methven.

REDUCED RAIL FARES AVAILABLE

Special convention rates for railway travel to Ottawa have been authorized through the Canadian Passenger Association. Identification certificates will be available on request to C.D.A. headquarters.

THE LIBRARY

ADDITIONS

- CANADIAN PUBLIC HEALTH ASSOCIATION. The Federal and Provincial Health Services in Canada. Edited by R. D. Diefries. A volume commemorating the fiftieth year of the C.P.H.A., and C.J.P.H., 1910-1959. Toronto, Univ. of Toronto Press, 1959. 147 p. \$1.75.
- ECKSTEIN, H. The English Health Service; its origins, structure, and achievements. Cambridge, Mass., Harvard Univ. Press, 1958. 289 p. \$6.05.
- HARKINS, C. S. Principles of cleft palate prosthesis. New York, Pub. for Temple University Publications by Columbia University Press, 1960. 219 p. illus. \$12.00.
- HINDS, E. D. & KEATS, A. S. Analgesia and sedation. (Practical dental monographs, March 1960.) Chicago, Year Book Pubs., 1960. 39 p.
- JOHNSON, W. H.: Oral radiography. London, Ilford Limited, Wm. Heinemann (Medical Books) Limited, 1959. 145 p. illus. \$7.55.
- KERR, D. A. & ASH, M. M. Jr. Oral pathology; an introduction to general and oral pathology for hygienists. Philadelphia, Lea & Febiger, 1960. 205 p. illus. \$6.00.
- KESSLER, E. & ACKERMAN, J. B.: I have twenty teeth—Do you? New York, Dodd, Mead & Co., 1959. 28 p. illus. \$2.35.
- KLINE, M. V.: Freud and hypnosis; the interaction of psychodynamics and hypnosis. New York, The Julian Press, Inc., 1958. 207 p. \$4.00.
- MALLOY, R. E. Medical electrical equipment. London, George Newnes Ltd., 1958. 312 p. illus. \$15.00.
- MARX, H. "H₂" in the battle against old age; a dramatic new use for novocain? New York, Plenum Press, Inc., 1960. 207 p. illus. \$4.95.
- MILLER, F. D.: Open door to health. New York, The Devin-Adair Co., 1959. 179 p. \$4.25.
- MONHEIM, L. M. General anesthesia in dental practice. St. Louis, Mosby, 1960. 461 p. illus. \$10.50.
- NIZEL, A. E.: Nutrition in clinical dentistry. Philadelphia, Saunders, 1960. 467 p. illus. \$10.00.
- RUMANIAN PEOPLE'S REPUBLIC: Ministry of Health and Social Welfare, Rumania. Health protection in the Rumanian People's Republic. Bucharest, 1959. 132 p. illus.
- SICHER, H.: Oral anatomy. 3rd ed. St. Louis, Mosby, 1960. 514 p. illus. \$13.50.
- SMITH, R. M.: Anesthesia for infants and children. St. Louis, Mosby, 1959. 418 p. illus. \$12.00.
- STEIGER, A. A. & BOITEL, R. H. Precision work for partial dentures. Zurich, Buchdruckerei Berichthaus, 1959. 229 p. illus. \$15.50.
- WILKINS, E. M. & McCULLOUGH, P. A. Clinical practice of the dental hygienist. Philadelphia, Lea & Febiger, 1959. 463 p. illus. \$9.50.
- WOLFF, H. G. & WOLF, S. Pain. 2nd ed. Springfield, C. C. Thomas, 1958. 121 p. illus. \$4.75.
- THE YEAR BOOK OF DENTISTRY, 1959-1960. Chicago, Year Book Publishers, 1960. 479 p. \$7.50.

A simplified mailing procedure for library books has been instituted. Authorization has been received from postal authorities to mail at special book rates, resulting in a considerable saving to the Association, and eliminating postage costs to borrowers.

Now books are to be returned in their original wrappers, using the return label provided, and leaving the original postage tape intact. The borrower's return address should be omitted. In this way, the borrower is not required to pay postage.

THE ASSOCIATION

Manitoba Amends Dental Act

Bill 82 passed March 25 by the Manitoba legislature authorizes changes recommended by the Manitoba Dental Association. Bills concerning ethical and illegal technician groups were hoisted.

Main features of the legislation adopted: provision for delegating broadened duties to dental hygienists under control of dentists; provision for establishment of dental clinics manned by registered dentists; addition of a prescription clause; redefinition of dentistry; and addition of an injunction clause.

This legislation resulted from several years' negotiation between the profession and the government. Illegal practice problems had reached serious proportions and authorization has been sought by illegal technicians to work directly for the public. Legislative provision extending the services which can be performed by dental auxiliaries, and setting up non-profit clinics is aimed at increasing the amount of dental service to the public but keeping that service under direct control and supervision of qualified dentists.

The new clause concerning dental hygienists is as follows:

"(b) providing for the delegation to dental hygienists of the performance, under the direct control and supervision of a registered dentist, of the services of

- (i) cleaning and polishing teeth;
- (ii) giving of instructions and demonstrations of oral hygiene and mouth care;
- (iii) taking x-rays of the teeth and jaws;
- (iv) taking of impressions of the mouth from which artificial dentures can be made;
- (v) determining and recording the relationship of one jaw to another; and
- (vi) repairing minor cracks in artificial dentures and replacement of broken or lost teeth in artificial dentures."

Clinics are authorized as follows:

- "(a) providing for the establishment, development and conduct of a dental clinic or dental clinics, staffed by registered dentists, to provide dental care and treatment to persons resident in the province;
- (b) providing for the establishment of a management committee for any such clinic of six members, comprised of four representatives of the association and two persons

appointed by the Minister of Health and Public Welfare, and prescribing the duties and powers of any such management committee;

(c) providing for the fees to be charged by any such clinic to the persons treated therein;

(d) providing for the application of part of the funds of the association to assist in the establishment, development and conduct of any such clinic."

Advance Convention Registration Urged

Dr. James P. Coupland, General Chairman of the 1960 C.D.A. E.O.D.A. joint convention recommends early registration to assure accommodation. Members of the Board of Governors and C.D.A. committee chairmen particularly are asked to register now for the convention which follows the Board meeting.

Announcements have been made through this publication of the dates—September 21-24 for the Board Meeting—September 25-28 for the Convention. Attractive post-convention tours have also been arranged. A registration and housing form is included in this issue for your use.

Public Vote Favours Technicians

Dental laboratory technicians of the County of Zurich, Switzerland, have been authorized by a public vote to perform removable prosthetic work. The vote taken April 3 was 98,000 to 58,000 in favour of allowing the technicians to work directly on the public.

In the state of Washington, U.S.A. attempts are being made to collect 100,000 signatures on a petition asking that a public vote be held on the question of allowing "denturists" to deal directly with the public.

Report of One Recruitment Effort

Results of a recent limited survey show that, of high school students seeking information about careers in dentistry most are in their final or second last year.

Under sponsorship of several dental supply houses, a full page about dentistry as a career was published in a recent issue of Canadian High News. C.H.N. publishes an annual supplement devoted to careers information. Circulation of this special issue was



Canadian Dental Association—American Dental Association Conference—May 6-7, 1960 held at Royal York Hotel, Toronto, Canada.

Executive of C.D.A. (and staff) and some committee chairmen Board of Trustees, some Council chairmen and staff, A.D.A.

over 100,000 across Canada. Dentistry's page contained a coupon which could be sent to the Canadian Dental Association for a copy of the booklet "Dentistry as a Professional Career". The following tables are derived from analysis of the first 100 coupons received by the C.D.A. Bureau of Public Information.

DISTRIBUTION OF RESPONDENTS

	Respondents
Grade 9	10%
Grade 10	13
Grade 11	23
Grade 12	33
Grade 13	8
University	5
Other	8
	100%

PROVINCIAL DISTRIBUTION

C.H.N. Circulation		Respondents
1.5%	Nfld.	1%
.9	P.E.I.	—
4.3	N.S.	9
3.6	N.B.	2
13.9	Que.	11
48.3	Ont.	36
4.4	Man.	6
5.9	Sask.	14
8.4	Alta.	11
8.8	B.C.	10
100.0%		100%

Putting it Straight

A sound, colour film running 14 minutes "Putting it Straight" is now available on loan from the C.D.A. library. The film was

produced by the National Film Board for the Dental Health Division, Department of National Health and Welfare. The C.D.A. Orthodontic section cooperated in the production.

The film tells the story of Mary, who is lonely and embarrassed by her crooked teeth. Her mother gives her little sympathy because she believes people are born with crooked teeth and nothing can be done about them. A neighbour helps to convince Mary's mother that something can be done. The film stresses the importance of early, regular and systematic care of the teeth in preventing such conditions.

A.D.A. and C.D.A. Conferences—May 6-7th, 1960, Toronto.

Representing the Canadian Dental Association at the meeting were:

Dr. William G. McIntosh, President; Dr. James P. Whyte, President Elect; Dr. George M. Dewis, Immediate Past President; Dr. Remy Langlois, Member of Executive; Dr. James Zimmerman, Member of Executive; Dr. William Miller, Member of Executive; Dr. M. Vincent J. Keenan, Member of Executive;

Dr. R. Arthur Rooney, Chairman, Committee on Auxiliary Service, and Secretary, Alberta Dental Association; Dr. James D. McLean, Chairman, Council on Dental Education; Dr. Harry K. Brown, Chairman, Committee on Dental Public Health; Dr. Stanley J. Phillips, Chairman of Finance; Dr. Percy G. Anderson, Chairman, Health Insurance Studies Committee;

Dr. Edward R. W. Bilkey, Editor, Journal of Canadian Dental Association, Dr. Don W. Gullett, Secretary, Canadian Dental Association, Mr. Ken L. Croft, Deputy Secretary

and Director, Bureau of Public Information; Miss Isabel Boyd, Assistant Secretary and Director, Bureau of Economic Research.

Representing the American Dental Association were:

Dr. Paul H. Jeserich, President; Dr. Charles H. Patton, President Elect; Dr. Gordon L. Teall, Second Vice President; Dr. Raymond L. Hart, Third Vice President; Dr. Harold Hillenbrand, Secretary; Dr. H. B. Washburn, Treasurer; Dr. Lon W. Morrey, Editor, The Journal of the American Dental Association;

Drs. John R. Abel, Arthur W. Easton, John S. Eilar, William A. Garrett, Maynard K. Hine, E. Jeff Justis, Laurance L. Lathrop, Edward F. Mimmack, Obed H. Moen (ad interim), Paul K. Musselman, Fritz A. Pierson, Robert J. Wells, and Henry M. Willits, Members, Board of Trustees;

Dr. H. S. Huxtable, Chairman, Council on Dental Education; Dr. Floyd W. Pillars, Chairman, Council on Legislation; Dr. J. Eugene Ziegler, Chairman, Council on Dental Trade and Laboratory Relations;

Dr. C. Willard Camalier, Assistant Secretary, Washington Office; Bernard J. Conway, Assistant Secretary, Legal Affairs; Dr. Shailer Peterson, Assistant Secretary, Educational Affairs; Dr. C. Gordon Watson, Assistant Secretary, Administrative Affairs; Bernard J. Beazley, Secretary, Council on Dental Trade and Laboratory Relations; Hal Christensen, Secretary, Council on Legislation;

John Rush, Business Manager; Peter C. Goulding, Director, Bureau of Public Information; Miss Doris Nugent, Assistant to the Secretary.

NATIONAL CONVENTION

Canadian Dental Association
&
Eastern Ontario Dental Association

September 25-28, 1960

CHATEAU LAURIER
OTTAWA

CORRECTION

It was stated in error on P. 291 of the May 1960 issue of the Journal, that the Board of Governors' meeting will be held from Sept. 25 to Sept. 28. The correct dates for the Board of Governors' meeting are from Sept. 21 to Sept. 24th.

BUREAU OF ECONOMIC RESEARCH

Editor's Note:

This is the first published report from the Bureau of Economic Research. Subsequent reports will appear in the Journal at regular intervals.

The Ages of Canadian Dentists, 1959

Many questions of great interest to the dental profession in Canada arise from a consideration of how well the present supply of personnel can meet the dental needs of our growing population. On this depend the answers to such problems as: how many new dentists should our schools be graduating and what other steps should be taken to alleviate shortages of personnel.

The future availability of dentists can not be determined, however, until we have a detailed knowledge of the age distribution of present members of the profession. For this reason, a study was made of the ages of all the Canadian dentists for whom this information was available on the index cards of the Canadian Dental Association. Dentists in each province were divided into those practising in cities of 10,000 and over and those settled in smaller communities, and

both groups were then broken down according to individual years of birth. From this data much useful information will now be available.

In Figure 1, which shows the number of dentists by year of birth, the uneven nature of the age distribution is evident. The age distribution of dentists is determined not only by trends affecting the population in general but by factors which influence the number graduating from dentistry at any one particular time. Thus the size of the group born from 1895 to 1900 results from the many dentists who graduated in the early twenties; the few born between 1905 and 1915 reflects the lean depression years whereas the many in the 1920-25 group reflects the postwar boom in dental education.

The average Canadian dentist is 45.9 years old; one-half of all dentists are under 43.4 years. The most common ages of dentists are 36, 37, and 38. Figure 2 gives the per cent of dentists in each five-year group.

In contrast to the situation ten years ago, there are now more dentists in their thirties (1,644) than in their forties (1,040) or fifties (914). Those dentists who were in the 35-45 group ten years ago, the depression graduates, are now more than counterbalanced by the many dentists who graduated between 1945 and 1950, most of whom are now in their late thirties.

The most productive years of a dentist's life (if this can be measured by his average gross income¹, are from 30 to 49 years. 50.7 per cent of all dentists are now in this age category. There are more dentists in the first half of this productive period than in the last half and 93 more dentists in the five-year group now entering it than in the five-year group leaving it. Figure 2.

For the next ten years withdrawals from the profession can be expected to increase as the group now approaching retirement age is composed of graduates from the classes of the early 1920's which were much larger than



FIGURE 1

1) C.D.A. Survey of Dental Practice, 1958, page 5, table 5.

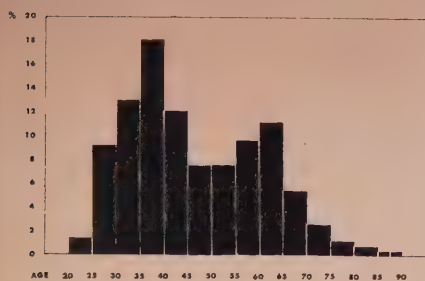


FIGURE 2

the graduating classes immediately preceding them.

The average age of dentists practising in Newfoundland is the youngest (37.4) in Canada. The averages for Alberta, British Columbia, Quebec, and Ontario come next. Prince Edward Island has the oldest average age (50.2) followed by Nova Scotia, Manitoba, New Brunswick and Saskatchewan (Table 1).

Average Age of Canadian Dentists on December 31st, 1959, by Province

Province	Average Age	50% of all dentists are under
Newfoundland	37.4	34.5
Alberta	43.2	40.0
British Columbia	45.1	41.0
Quebec	45.3	42.0
Ontario	46.0	43.0
Saskatchewan	47.3	45.0
New Brunswick	47.8	46.0
Manitoba	49.6	49.0
Nova Scotia	49.7	46.0
Prince Edward Island....	50.2	53.0
CANADA	45.9	43.4

Table 1

Dentists practising in communities of under 10,000 persons are slightly older (46.4) than their colleagues in larger cities (45.7); but this nation-wide pattern varies considerably from province to province (Table 2). Thus in British Columbia, Alberta, Manitoba, and Quebec the average age of dentists in the more rural areas is lower than the average age of city dentists.

Median Age of Canadian Dentists on December 31, 1959, by Province and by Size of Community of Location

Province	In cities 10,000 and over 50% of Dentists are under:	In other communities 50% of Dentists are under:
Newfoundland	33	38½
Alberta	40	39
British Columbia	42	41
Quebec	44	39
Ontario	42	48
Saskatchewan	44	46
New Brunswick	42	53½
Manitoba	50	41
Nova Scotia	44	55
Prince Edward Island...	50½	55
CANADA	43.3	43.7

Table 2

It is to be hoped that with the development of new methods in the not too distant future, the Bureau of Economic Research will be in a position to make such information as this available regularly and upon short notice.

AGES OF CANADIAN DENTISTS ON DECEMBER 31, 1959 DISTRIBUTED BY PROVINCE, AND BY SIZE OF COMMUNITY CANADA

Ages	In Cities 10,000 and Over			In Other Communities			Total		Cumulative
	No.	%	Cumulative %	No.	%	Cumulative %	No.	%	
Under 25	58	1.4	1.4	17	1.4	1.4	75	1.4	1.4
25 - 29	377	9.2	10.6	114	9.5	10.9	491	9.2	10.6
30 - 34	526	12.8	23.4	158	13.3	24.2	684	13.0	23.6
35 - 39	754	18.3	41.7	206	17.3	41.5	960	18.1	41.7
40 - 44	506	12.4	54.1	136	11.4	52.9	642	12.1	53.8
45 - 49	316	7.7	61.8	82	6.9	59.8	398	7.5	61.3
50 - 54	326	7.9	69.7	73	6.1	65.9	399	7.6	68.9
55 - 59	402	9.8	79.5	113	9.5	75.4	515	9.7	78.6
60 - 64	441	10.8	90.3	150	12.6	88.0	591	11.2	89.8
65 and over...	397	9.7	100.0	142	12.0	100.0	539	10.2	100.0
Total	4103*	100.0		1191*	100.0		5294*	100.0	
Average age:									
Mean	45.7			46.4			45.9		
Median ...	43.3			43.7			43.4		
Standard deviation							13.9		

Source: Index Cards of the Canadian Dental Association.

ALBERTA

Ages	In Cities 10,000 and Over			In Other Communities			Total	
	Cumulative			Cumulative			Cumulative	
	No.	%	%	No.	%	%	No.	%
Under 25	6	2.0	2.0	4	4.6	4.6	10	2.6
25-29	34	11.9	13.9	9	10.5	15.1	43	11.6
30-34	32	11.1	25.0	11	12.8	27.9	43	11.5
35-39	67	23.4	48.4	23	26.7	54.6	90	24.1
40-44	38	13.2	61.6	10	11.6	66.2	48	12.9
45-49	26	9.1	70.7	5	5.8	72.0	31	8.3
50-54	24	8.3	79.0	4	4.7	76.7	28	7.5
55-59	16	5.6	84.6	2	2.3	79.0	18	4.8
60-64	24	8.4	93.0	8	9.3	88.3	32	8.6
65 and over ...	20	7.0	100.0	10	11.7	100.0	30	8.1
Total	287*	100.0		86*	100.0		373*	100.0
Average age (°):								
Mean	43.2			43.0			43.2	
Median	40.0			39.0			40.0	
Standard deviation							13.2	

(1) The averages in this table were calculated from ungrouped data.

BRITISH COLUMBIA

Ages	In Cities 10,000 and Over			In Other Communities			Total	
	Cumulative			Cumulative			Cumulative	
	No.	%	%	No.	%	%	No.	%
Under 25	1	.2	.2	...	...	...	1	.1
25-29	26	5.4	5.6	15	10.4	10.4	41	6.6
30-34	61	12.8	18.4	13	9.0	19.4	74	11.9
35-39	122	25.6	44.0	38	26.4	45.8	160	25.8
40-44	70	14.7	58.7	26	18.0	63.8	96	15.5
45-49	37	7.7	66.4	11	7.7	71.5	48	7.7
50-54	29	6.1	72.5	9	6.2	77.7	38	6.1
55-59	43	9.0	81.5	15	10.4	88.1	58	9.3
60-64	39	8.2	89.7	7	4.9	93.0	46	7.4
65 and over ...	49	10.3	100.0	10	7.0	100.0	59	9.6
Total	477*	100.0		144*	100.0		621*	100.0
Average age (°):								
Mean	45.5			43.8			45.1	
Median	42.0			41.0			41.0	
Standard deviation							12.7	

(1) The averages in this table were calculated from ungrouped data.

MANITOBA

Ages	In Cities 10,000 and Over			In Other Communities			Total	
	Cumulative			Cumulative			Cumulative	
	No.	%	%	No.	%	%	No.	%
Under 25	5	2.2	2.2	...	...	...	5	1.8
25-29	16	7.1	9.3	7	16.2	16.2	23	8.6
30-34	13	5.8	15.1	8	18.6	34.8	21	7.8
35-39	38	16.9	32.0	5	11.7	46.5	43	16.1
40-44	26	11.5	43.5	4	9.3	55.8	30	11.2
45-49	12	5.3	48.8	1	2.3	58.1	13	4.8
50-54	22	9.8	58.6	5	11.6	69.7	27	10.1
55-59	14	6.2	64.8	2	4.7	74.4	16	6.0
60-64	31	13.8	78.6	4	9.3	83.7	35	13.0
65 and over ...	48	21.4	100.0	7	16.3	100.0	55	20.6
Total	225*	100.0		43*	100.0		268*	100.0
Average age (°):								
Mean	50.3			46.0			49.6	
Median	50.0			41.0			49.0	
Standard deviation							15.7	

(1) The averages in this table were calculated from ungrouped data.

NEW BRUNSWICK

Ages	In Cities 10,000 and Over			In Other Communities			Total		Cumulative
	No.	%	Cumulative %	No.	%	Cumulative %	No.	%	
Under 25	...	...	...	...	...	...	...	...	...
25-29	4	6.2	6.2	2	4.3	4.3	6	5.4	5.4
30-34	10	15.6	21.8	5	10.9	15.2	15	13.6	19.0
35-39	17	26.6	48.4	3	6.5	21.7	20	18.2	37.2
40-44	4	6.2	54.6	8	17.4	39.1	12	10.9	48.1
45-49	6	9.4	64.0	3	6.5	45.6	9	8.2	56.3
50-54	6	9.4	73.4	3	6.5	52.1	9	8.2	64.5
55-59	4	6.2	79.6	8	17.4	69.5	12	10.9	75.4
60-64	6	9.4	89.0	7	15.2	84.7	13	11.8	87.2
65 and over ...	7	11.0	100.0	7	15.3	100.0	14	12.8	100.0
Total	64*	100.0		46*	100.0		110*	100.0	
Average age (1):									
Mean	45.4			51.0			47.8		
Median	42.0			53.5			46.0		
Standard deviation							13.6		

(1) The averages in this table were calculated from ungrouped data.

NEWFOUNDLAND

Ages	In Cities 10,000 and Over			In Other Communities			Total		Cumulative
	No.	%	Cumulative %	No.	%	Cumulative %	No.	%	
Under 25	1	4.1	4.1	...	...	...	1	3.3	3.3
25-29	7	29.2	33.3	...	...	...	7	23.3	26.6
30-34	5	20.8	54.1	2	33.3	33.3	7	23.4	50.0
35-39	6	25.0	79.1	1	16.7	50.0	7	23.3	73.3
40-44	1	4.2	83.3	1	16.6	66.6	2	6.7	80.0
45-49	...	...	...	1	16.7	83.3	1	3.3	83.3
50-54	2	8.3	91.6	...	...	...	2	6.7	90.0
55-59	...	...	...	...	...	...	...	...	...
60-64	1	4.2	95.8	1	16.7	...	2	6.6	96.6
65 and over ...	1	4.2	100.0	...	...	100.0	1	3.4	100.0
Total	24*	100.0		6*	100.0		30*	100.0	
Average age (1):									
Mean	36.2			42.5			37.4		
Median	33.0			38.5			34.5		
Standard deviation							11.3		

(1) The averages in this table were calculated from ungrouped data.

NOVA SCOTIA

Ages	In Cities 10,000 and Over			In Other Communities			Total		Cumulative
	No.	%	Cumulative %	No.	%	Cumulative %	No.	%	
Under 25	2	1.8	1.8	...	...	...	2	1.0	1.0
25-29	2	1.9	3.7	6	8.0	8.0	8	4.4	5.4
30-34	13	12.0	15.7	4	5.3	13.3	17	9.3	14.7
35-39	21	19.4	35.1	11	14.7	28.0	32	17.5	32.2
40-44	19	17.6	52.7	9	12.0	40.0	28	15.3	47.5
45-49	8	7.4	60.1	3	4.0	44.0	11	6.0	53.5
50-54	14	13.0	73.1	4	5.3	49.3	18	9.8	63.3
55-59	6	5.6	78.7	7	9.3	58.6	13	7.1	70.4
60-64	8	7.4	86.1	14	18.7	77.3	22	12.1	82.5
65 and over ...	15	13.9	100.0	17	22.7	100.0	32	17.5	100.0
Total	108*	100.0		75*	100.0		183*	100.0	
Average age (1):									
Mean	47.7			52.6			49.7		
Median	44.0			55.0			46.0		
Standard deviation							15.1		

(1) The averages in this table were calculated from ungrouped data.

ONTARIO

Ages	In Cities 10,000 and Over			In Other Communities			Total	
	Cumulative			Cumulative			Cumulative	
	No.	%	%	No.	%	%	No.	%
Under 25	36	2.0	2.0	11	2.4	2.4	47	2.0
25-29	199	11.0	13.0	44	9.9	12.3	243	10.9
30-34	235	13.1	26.1	49	10.9	23.2	284	12.6
35-39	305	16.9	43.0	58	13.0	36.2	363	16.2
40-44	208	11.6	54.6	38	8.5	44.7	246	10.9
45-49	129	7.2	61.8	31	6.9	51.6	160	7.1
50-54	138	7.6	69.4	24	5.4	57.0	162	7.3
55-59	182	10.1	79.5	48	10.7	67.7	230	10.2
60-64	200	11.2	90.7	80	17.9	85.6	280	12.5
65 and over ...	167	9.3	100.0	64	14.4	100.0	231	10.3
Total	1799*	100.0		447*	100.0		2246*	100.0
Average age (†):								
Mean	45.4			48.5			46.0	
Median	42.0			48.0			43.0	
Standard deviation							14.3	

(1) The averages in this table were calculated from ungrouped data.

PRINCE EDWARD ISLAND

Ages	In Cities 10,000 and Over			In Other Communities			Total	
	Cumulative			Cumulative			Cumulative	
	No.	%	%	No.	%	%	No.	%
Under 25	..	...	...	...	...	...	...	...
25-29	..	...	...	2	13.3	13.3	2	6.0
30-34	2	11.1	11.1	1	6.7	20.0	3	9.1
35-39	2	11.1	22.2	3	20.0	40.0	5	15.2
40-44	2	11.1	33.3	...	...	...	2	6.0
45-49	3	16.7	50.0	...	...	...	3	9.1
50-54	2	11.1	61.1	1	6.6	46.6	3	9.1
55-59	2	11.1	72.2	4	26.7	73.3	6	18.2
60-64	2	11.1	83.3	2	13.3	86.6	4	12.1
65 and over ...	3	16.7	100.0	2	13.4	100.0	5	15.2
Total	18*	100.0		15*	100.0		33*	15.2
Average age (†):								
Mean	51.1			49.2			50.2	
Median	50.5			55.0			53.0	
Standard deviation							13.4	

(1) The averages in this table were calculated from ungrouped data.

QUEBEC

Ages	In Cities 10,000 and Over			In Other Communities			Total	
	Cumulative			Cumulative			Cumulative	
	No.	%	%	No.	%	%	No.	%
Under 25	7	.6	.6	...	...	...	7	.5
25-29	85	8.5	9.1	26	10.1	10.1	111	8.8
30-34	141	14.0	23.1	52	20.4	30.5	193	15.3
35-39	164	16.3	39.4	52	20.4	50.9	216	17.1
40-44	120	11.9	51.3	36	14.1	65.0	156	12.4
45-49	88	8.7	60.0	21	8.3	73.3	109	8.6
50-54	79	7.9	67.9	16	6.3	79.6	95	7.5
55-59	130	12.9	80.8	22	8.6	88.2	152	12.1
60-64	117	11.6	92.4	18	7.0	95.2	135	10.7
65 and over ...	76	7.6	100.0	12	4.8	100.0	88	7.0
Total	1007*	100.0		255*	100.0		1262*	100.0
Average age (†):								
Mean	46.0			42.5			45.3	
Median	44.0			39.0			42.0	
Standard deviation							13.0	

(1) The averages in this table were calculated from ungrouped data.

SASKATCHEWAN

Ages	In Cities 10,000 and Over			In Other Communities			Total	
	Cumulative			Cumulative			Cumulative	
	No.	%	%	No.	%	%	No.	%
Under 25	..	...	...	2	2.7	2.7	2	1.1
25 - 29	4	4.2	4.2	3	4.0	6.7	7	4.2
30 - 34	14	14.9	19.1	13	17.6	24.3	27	16.1
35 - 39	12	12.8	31.9	12	16.2	40.5	24	14.3
40 - 44	18	19.1	51.0	4	5.4	45.9	22	13.1
45 - 49	7	7.5	58.5	6	8.1	54.0	13	7.7
50 - 54	10	10.6	69.1	7	9.5	63.5	17	10.1
55 - 59	5	5.3	74.4	5	6.7	70.2	10	6.0
60 - 64	13	13.8	88.2	9	12.2	82.4	22	13.1
65 and over ...	11	11.8	100.0	13	17.6	100.0	24	14.3
Total	94*	100.0		74*	100.0		168*	100.0
Average age (1):								
Mean	47.1			47.6			47.3	
Median	44.0			46.0			45.0	
Standard deviation							13.7	

(1) The averages in this table were calculated from ungrouped data.

THE CORPS

Brigadier Baird Visits U.S. Dental Chiefs

Brigadier K. M. Baird, Director General of Dental Services visited Washington, D.C., in April to confer with heads of U.S. Navy, Army and Air Force Dental Corps.

Colonel Shillington Inspects R.C.D.C. (Militia)

Colonel G. B. Shillington, D.D.G.D.S. has recently inspected a number of R.C.D.C. (M) units in connection with the annual Militia General Efficiency Competition. The units participating in this year's competition are: No. 50 Dental Unit, Halifax, N.S. commanded by Lt.-Col. G. C. MacLeod; No. 51 Dental Unit, Saint John, N.B. commanded by Lt.-Col. G. L. Ramsay; No. 54 Dental Unit, Ottawa, Ont. commanded by Lt.-Col. H. J. Chartrand; No. 55 Dental Unit, London, Ont.

commanded by Lt.-Col. A. J. Harris; No. 56 Dental Unit, Toronto, Ont. commanded by Lt.-Col. A. Z. Henry; No. 59 Dental Unit, Calgary, Alta. commanded by Lt.-Col. D. L. Thompson; No. 60 Dental Unit, Edmonton, Alta. commanded by Lt.-Col. A. D. Fee; and No. 61 Dental Unit, Vancouver, B.C. commanded by Lt.-Col. F. K. Currie. The results of this competition will be announced at a later date.

Lt.-Col. W. M. Sinclair Retires

Army Headquarters has announced the retirement of Lt.-Col. W. M. Sinclair, Commanding Officer of No. 12 Dental Company and Command Dental Officer, Eastern Command.

Lt.-Col. Sinclair was born in Mexico and received his professional education in England, graduating with the degree of

L.D.S.R.C.S., Eng. in 1930 and a B.D.S. in 1931. He has had a varied and interesting career both in military and civilian life. He served on staff of the Eastman Dental Clinic, London and the Dundee Dental Infirmary before commencing his military service with the Canadian Forces in 1940 with the Irish Regiment of Canada. He transferred to the C.D.C. in 1943 and was employed in Halifax for the duration of the war. Since the war he has served in Central and Eastern Commands as well as instructing in Oral Surgery at The R.C.D.C. School and as Commanding Officer of the Dental Unit in Korea. His special interest is Oral Surgery and he is the author of a number of professional articles on this subject.

All members of the Corps wish Lt.-Col. Sinclair every success in civilian life in Manitoba.

Lt.-Col. Roger to Command No. 12 Dental Company

Lt.-Col. A. T. Roger of Ottawa has been named to succeed Lt.-Col. Sinclair as Commanding Officer No. 12 Dental Company and Command Dental Officer, Eastern Command, Halifax, N.S.

Lt.-Col. Roger was born in Hamilton but received his early education in Ottawa and graduated from the University of Toronto in 1937. Appointed to the Corps in 1939 he proceeded overseas in 1941 serving for some years with the maxillo-facial team at Basingstoke Neurological Hospital. On demobilization in 1945 he took an appointment with the Department of Veterans Affairs but was reappointed to the R.C.D.C. in 1951 and served at Rockcliffe until joining the staff of The R.C.D.C. School as an instructor in Oral Surgery in 1953 and in 1959 he was appointed Chief Instructor. Lt.-Col. Roger is married with two children.

Promotions

The promotions of Major J. W. Turner to the rank of Lt.-Col. and of Captains H. E. McKenna and H. G. Bunston to the rank of Major have recently been announced.

Lt.-Col. Turner was born in Toronto. He received his high school education at Niagara Falls College and dental undergraduate training at the University of Toronto, graduating in 1945. He was appointed to the Corps in the same year and has served at various locations in Western and Prairie Commands, as well as in Germany and at sea aboard H.M.C.S. "Ontario". He is currently employed at Currie Barracks and resides with his wife and four children in Calgary.



RDCD FLASHBACK

A group of C.D.C. officers at No. 2 Dental Technical Training Centre, Utrecht, Holland in 1945.

Photo courtesy of Dr. C. S. Lea, Calgary.

Major McKenna, a native of Sherbrooke, Que., received his dental education at the University of Toronto, graduating with the class of 41 and in 1949 graduated from the same university with his D.D.P.H. He enrolled in the R.C.D.C. in 1951 at St. John's, Nfld. and has served in Korea, Western and Quebec Commands. He is, at present, stationed in Quebec City.

Born in Brandon, Man., Major Bunston is a 1952 graduate of McGill University. Since graduation and his promotion to Captain he served in Quebec and Central Commands until July 1958 when he proceeded overseas to join his present unit No. 35 Field Dental Unit in France. Major Bunston is married with three children.

Courses

The following R.C.D.C. officers have attended postgraduate courses recently as follows:

Major J. C. Brick, Directorate of Dental Services, Ottawa—Mass Casualty Care at the U.S. Navy Dental School, Bethesda, Maryland.

Major E. D. Fraser, Montreal — High Speed Orientation at the U.S. Navy Dental School, Bethesda, Maryland.

Obituary Captain J. E. MacNeily

It is with regret that the R.C.D.C. announces the sudden death of Captain J. E. MacNeily at Camp Borden, Ont. on April 11. Born in Montreal in 1927, he enrolled in the Canadian Army as an Officer Cadet under the Regular Officers Training Plan in 1954 and on graduation from Dalhousie University in June 1957 was commissioned as a second lieutenant, then promoted to Captain and posted to Eastern Command. In February 1958 he was posted to R.C.A.F. Station, Camp Borden where he was employed at the time of his death. He is survived by his wife.

THE PROVINCES

ALBERTA

Dental Auxiliaries

The Dental Auxiliaries Bill, recently passed by the Alberta Legislature is receiving careful scrutiny by the dental associations of North America.

It paves the way for establishment of a special University course for auxiliaries who, on completion of a two year course will work under the supervision of qualified dentists in rural public health clinics.

The proposed course of studies has not been announced, but the duties of a licenced auxiliary will certainly include the cleaning of teeth, the application of fluorides, and the teaching of preventive dental care.

Alberta Dentists Welcome Prospect of Auxiliaries

Announcement of the provincial government's decision to train Dental Auxiliaries has met with general approval among Alberta's dentists.

They see ultimately an extra pair of hands in every office, to take care of many of the time-consuming routine duties, and a consequent increase in the time available for the dentist to employ some of his more highly trained skills.

The university has not announced what duties the auxiliary will be trained for, but at the moment it appears that their functions will roughly parallel those of the Dental Hygienist. If there were to be an extension of these duties, some feel that it should be in the direction of the manipulation of the common filling materials, including placement, after the dentist has prepared the cavity.

In any case, it will be some time before the private practitioner will be able to utilise this help. The act, as passed, limits graduates to employment by the government in their rural Dental Public Health Program. Probably several years will elapse before this need is fully met, and graduates will be available to private offices.

Alberta Dentists Volunteer For Short-Term Appointments With Government Health

Service.

With Public Health Dentists in short supply, the Calgary and Edmonton Dental Societies have started a registry of city dentists who will take time off from their practices, to work for a minimum of two weeks in the Provincial Dental Public Health Plan, in some rural area.

The government is providing operating vans, or transportable equipment which can be readily set up in suitable buildings for use by these traveling dental teams.

Those in charge of registering applicants have been amazed by the enthusiasm shown by the men, anxious apparently to trade their familiar routine for something a bit different for two weeks or a month.

D.C.D.

BRITISH COLUMBIA

Spring Clinic in Interior

Under the chairmanship of Dr. W. Bert Letham of Salmon Arm, the Interior Dental Society held its spring clinic in Penticton to coincide with the visit of C.D.A. President Dr. W. G. McIntosh and Secretary Dr. Don Gullett.

About 30 dentists attended the one-day meeting which saw Dr. Wm. R. Scott of Vancouver present an interesting table clinic on crown and bridgework, following which B.C.D.A. executive secretary Dr. Ross Upton explained a proposed dental pre-payment plan now being considered by the association.

Under arrangements made by Dr. Don C. Hicks of Kamloops, our secretary-treasurer, a pleasant social hour and a good dinner were enjoyed by all. The addresses by President McIntosh and Secretary Gullett were well received and were a fitting climax to a successful meeting.

Kootenay Dental Society

Dr. T. H. Walhovd of Creston was elected president of the Kootenay Society at its recent annual convention. He succeeds Dr. Robert A. Walley of Trail.

Dr. Don Sinclair of Trail is president-elect and Dr. Marty Martin (also of Trail) is secretary.

Guest speakers were Dr. W. G. McIntosh and Dr. Don Gullett, president and secretary respectively of the Canadian Dental Association, and Dr. G. K. Minty of Calgary, children's specialist.

Delegates reiterated requests for a dental college at U.B.C. and reaffirmed their positive stand on fluoridation.

Prince George Sets Up Bursary

The Prince George and District Dental Society has set up a bursary of \$200.00 per year for dental students from this area with preference given to first-year students.

The objects of the bursary are: (1) to encourage good students from this area to take up dentistry; (2) to gain more dentists eventually for our district; (3) to improve public relations in general.

A special guest at the March meeting of the society was Miss Harbord, supervisor of welfare for Prince George. She discussed authorization procedures, the new charts and difficulties the members had with welfare cases.

All the members have taken part in the governmental dental survey with Dr. Waller travelling the farthest to McBride and surrounding communities.

Home Talent Night

The March meeting of the Fraser Valley Dental Society took the form of a Home Talent Night held at the Chilliwack Medical-Dental Centre with these Chilliwack members presenting clinics: Drs. R. G. Donaldson, D. D. Vogt, W. G. Newby, W. S. Trafton, J. H. Bridges, N. L. Crabtree, H. Kovits, L. E. Kelly, G. J. Hutton, G. D. Enns.

D.H.M.

QUEBEC

Montreal Dental Club

The April meeting of the Montreal Dental Club was held at the Queen's Hotel on

Thursday, April 21st, 1960, with Dr. Howard Oliver presiding.

The application for an out of town membership on behalf of Dr. R. L. Kouri of Sherbrooke, Que. was unanimously accepted.

It was announced that this would be the last dinner meeting of the season. The next Club activity will be the Annual Spring Golf Meet to be held on June 3rd, 4th and 5th at the Grand'Mere Country Club. Dr. J. McMullen asked all members to keep those dates free and to plan for a week-end of social activity.

The speaker for the evening was one of our own members, Dr. Roberta Dundass, D.D.S., L.D.S., M.Sc. (Dentistry), Chairman of the Pedodontic Section of the Faculty of Dentistry, McGill University. Dr. Dundass based her talk on the methods of approach to children requiring dental treatment. Various approaches for children of different temperaments were discussed. She stressed the fact that each child is an individual personality and must be treated as such. It is necessary for the dentist to establish rapport with the child before any satisfactory work can be carried out.

Dr. Dundass' talk was enthusiastically received by the Club members and Dr. Roland Nadeau thanked her on behalf of those present.

J.D.F.

Mount Royal Dental Society

The third annual D. Prescott Mowry Memorial Lecture sponsored by the Mount Royal Dental Society was held on Monday, April 4th, in the Amphitheatre of the Montreal General Hospital.

Dr. D. Steinberg welcomed the guests and Dr. H. Rosen introduced the speaker for the day, Dr. Balint Orban, Professor of Periodontics at Loyola University School of Dentistry, Chicago, Illinois.

His morning presentation was "Classification and Diagnosis of Periodontal Disease".

Dr. Orban defines the term periodontium as one which designates all the supporting structures connected with the tooth. There are various diseases affecting various parts of the periodontium, understanding the biology of this periodontium is all important, hence his classification:

I. Inflammatory Diseases.

Tissue response to an insult produced primarily by local irritation—can probably account for 75 to 80% of periodontal diseases which we see.

a) Gingivitis—modified by:

- i. localized
- generalized
- ii. papillary
- marginal
- attached
- iii. acute
- chronic
- iv. Clinical appearance
 - ie. hyperplastic
 - ulcerative
 - pseudo-membranous
 - purulent
 - hemorrhagic
- v. Etiology
 - local
 - systemic—there are none which in themselves cause periodontal disease but will modify a gingivitis already present.

b) Periodontitis:

here the inflammation penetrates into the deeper structures and can be cured but must be maintained with constant care and attention.

II. Dystrophic

A cellular change brought about by a nutritional deficiency within the cell itself—these constitute about 20 to 25% of cases which we see.

- A) Degeneration — constituting about 10%.
Here the vital cell turns to non-vital eg. fatty degeneration.
fluid degeneration.
Sometimes called Gingivosis, or if it affects deeper structures, Periodontosis—the etiology is unknown.

- B) Atrophy—constitutes about 5% of cases. This is a disease in which an organ becomes smaller. Here we have simultaneous recession of gingiva and supporting bone. It is usually a physiologic process but if it occurs in young individuals, it is called atrophic recession. There is also disuse atrophy — eg. if teeth lose antagonists, the underlying structures atrophy.

- C) Hyperplasia—constitutes about 5% of cases.
Gingival hyperplasia—overgrowth of tissue—is idiopathic.

III. Traumatic Tissue Injuries

Occlusal traumatism eg, resorption of the bone on the pressure side with new formation occurring on the tension side. Traumatism is an aggravating factor but never causes inflammation by itself.

Dr. Orban then discussed function in relation to form. A normal periodontium which has been subjected to more than normal functional loads, will show traumatic injury; similarly when periodontal structures have been broken down due to disease, they are then subjected to more than normal loads for the base then present. The adaptation mechanism is of great importance here as it can reinforce the area by laying down new bone.

Dr. Orban also discussed treatment problems and there followed a question and answer period.

The speaker was thanked for his instructive and enjoyable presentation by Dr. A. Colle, and the meeting was adjourned.

D.S.

SASKATCHEWAN

Saskatoon and District Dental Society

Guest speaker at the April meeting of the Saskatoon and District Dental Society was Mr. J. McFaul, estate management consultant from the Manufacturers Life Insurance Company.

Mr. McFaul gave a very informative talk on estate planning including life insurance, wills, estate taxes, and gift taxes.

L.D.H.

Lecture on Medical Care

The Saskatoon local and district society had two very interesting lecturers in the persons of Dr. J. Anderson and Dr. J. Harland, on the subject of Medical care. Dr. Anderson has taken a very prominent role in the Canadian Medical Association—being President a few years ago. He has served for some time on the Saskatchewan Health Commission. He was recently appointed to the Government advisory committee on medical care. Dr. Harland is an Anesthetist at the University Hospital and has been a keen student of the practice of medical care.

This subject is of particular interest to everyone in the province of Saskatchewan and to all in Canada. The members of all health professions could become involved in a direct manner. They presented considerable history of health management in this province in the last sixteen years. The important and pertinent consideration presented was the fact that the health services to be the best for the public, must be under the jurisdiction of the profession and laity and certainly not under the government.

THE NATIONAL CONVENTION IN THE NATION'S CAPITAL

The National Capital belongs to the people of Canada. It is not merely Ottawa. Nor is it intended as a private preserve for the enjoyment of the citizens of Ottawa. Canada is building it and Canadians are claiming it.

Around the city the National Capital Commission is placing a Greenbelt, a unique girdle of green countryside which is two miles deep in some places and comprises some 40,000 acres. The borders of the urban area will always be clean and sharp. There can be no ugly urban sprawl choking out open spaces.

But this is only a part of the natural beauty that is being protected and developed in the National Capital scheme. Since 1947 the National Capital Commission has been acquiring the lands which now comprise beautiful Gatineau Park, a 75,000-acre scenic paradise just across the



This is the growing National Capital which awaits the dentists of Canada in September. The C.D.A. Convention September 25-28 is the occasion to visit it and to know its fascination.

Ottawa River in the Province of Quebec. Now a new Parkway cuts deep into the heart of the wooded lands, exposing mountain lakes and rolling valleys to the eyes of men.

The National Capital is also the national buildings; the Gothic Spires and the new shapes of modern architecture.

Ottawa today is not Ottawa of five years ago or even two years ago. The changes and growth show everywhere. It is a place to be seen now, this capital of Canada. For here with great vigor and yet with patience is rising a Capital that will evoke cheers and tears of honest pride. And today, more than in the past when it all seemed remote, more than in the future when it will all be taken for granted, today is the time to feel the pull of a Capital growing with a nation.

REGISTRATION FORM

**Must be accompanied by Cheque or Money Order
Payable to C.D.A. 1960 Convention Committee**

Canadian Dental Association,
c/o Ottawa Tourist & Convention Bureau,
70 Nicholas Street,
Ottawa, Ontario.

Ottawa, Ontario,
September 25-28, 1960.

NAME

ADDRESS

CITY PROVINCE

WIFE'S NAME

Golf Yes..... No.....

REGISTRATION FEE:

Single	\$35.00
Wife	\$15.00
Both	\$50.00
Includes the President's Dinner and all Official Functions.	

HOUSING ACCOMMODATION APPLICATION

....Hotel Room	Single....	Twin Beds....	Double Bed....	\$10.00 to \$16.50	} Double Occupancy European Plan
....Motel Unit	Single....	Twin Beds....	Double Bed....	9.00 to 14.00	
....Tourist Home	Single....	Twin Beds....	Double Bed....	5.00 to 8.00	

Complete all three in order of preference by marking (A) (B) (C).

In view of the large attendance expected, it might be to your advantage to share a room with another member. Please mention below the name of the person with whom you would like to share your accommodation, otherwise assignment will be made by the Housing Committee.

Names of persons sharing accommodation:

Names &

Addresses &

City &

Arriving Ottawa onat.....a.m.

Departing Ottawa onat.....a.m.

Travelling by Car..... Train..... Air..... Bus.....

POST CONVENTION PACKAGE TOURS

3-day Laurentian Bus Tour DeLuxe: Mont Tremblant Lodge and The Chantecler. All inclusive except gratuities. \$40.00. Yes.....

8-day T.C.A. Tours from Ottawa: All inclusive except gratuities on land portion
Bermuda \$265.00 Yes..... Nassau \$315.00 Yes.....
Take advantage of through fare to your post-convention island. Consult your local T.C.A. office.

**Advanced and early registration will be very much appreciated by your committee
and will be most advantageous to the registrant.**

GENERAL NEWS

Forsyth Dental Infirmary Occupies New Research Wing in Boston

The problems of dental disease are among the most universal and most costly of all health problems in the United States. They will be solved in the long run only through research. It is for this reason that Forsyth has taken measures to strengthen its efforts in this area. At the same time, the task of improving care of patients is a continuing challenge to the profession and to the staff at Forsyth. These two facets of our program—research and patient care—coupled with teaching at the postdoctoral level, create a stimulating academic environment from which it is to be hoped major contributions to the alleviation of dental disorders may emanate.

The completion of this new research facility represents the culmination of a five year re-orientation of The Forsyth Dental Infirmary. Starting with the affiliation with the Harvard School of Dental Medicine in 1955 and the appointment of Dr. John B. Macdonald as Director of Forsyth and Professor at the Harvard School in 1956, followed by joint appointments of other key members of the staff during 1958 and 1959, and now the addition of these modern laboratories and animal quarters, a new Forsyth is prepared to make effective contributions to dental research, education and patient care.

The Forsyth Dental Infirmary was founded in 1910 by the Forsyths, an old Roxbury family of Scottish descent, to provide dental care for children, to maintain a stimulating atmosphere for the interchange of ideas, and to further studies leading to the prevention of oral disease. Each year, since 1914, appointments have been offered to selected graduates of accredited dental schools throughout the world.

In 1958, following a decision to expand its program of clinical and laboratory research in dentistry, plans were disclosed for the erection of a new two-story steel and concrete research building. Construction of the new research wing was completed on January 15, 1960 and the task of fitting the laboratories started.

The new research wing fills a U-shaped quadrangle and has a total floor space of approximately 8,000 square feet. Included are four large laboratories, eight small lab-

oratories, an isotope laboratory and air-conditioned animal quarters. The structure is designed to meet the changing requirements of research in that partitions are movable and all services are readily accessible for expansion or alteration. An additional unfinished area of about 2,000 square feet provides room for future growth. The new wing also is designed to support as many as three additional floors.

The laboratory facilities are to be devoted in major part to fundamental research related to the oral cavity. Research activities will center in the three major public health problems of dentistry—dental caries, periodontal disease, and malocclusion.

Studies of trace element distribution in teeth, studies of biochemical mechanisms involved in the calcification of teeth and bones; studies of mechanisms involved in bone resorption; interrelationships of bacteria in the oral cavity; biochemical agents contributing to infection in periodontal disease, antibacterial components of saliva; and studies of dental development based on physiological age, are among the varied research programs in dentistry now underway at the Forsyth Infirmary.

60 Per Cent Decline in Dental Decay

An average decrease in dental decay of 60 per cent has occurred in Evanston, Illinois, in children whose entire lives have been spent there since fluoridation began 13 years ago. This statistic was announced recently on the anniversary of the addition of fluoride to the water supply. The director of the Evanston dental decay study presented the city's Mayor with a mock cheque for \$154,202 representing the estimated amount Evanston parents have saved in dental bills since fluoridation was started in 1947.

Dose Meter

A new plastic-encased dose meter about the size of a silver dollar records radiation exposure cumulatively. Unlike instruments that detect the presence of radiation, this one tells of exposure of which the wearer may not have been aware.

Dr. C. G. Watson Named as Assistant Secretary of A.D.A.

Dr. C. Gordon Watson, who has been extremely active in dental affairs on the West Coast, has recently joined the American Dental Association as an assistant secretary in charge of Administrative Affairs, Sec. Harold Hillenbrand has announced. Dr. Watson, 38 years old, practiced dentistry 14 years in San Diego, Calif. His home was in La Mesa, Calif. In addition to serving as secretary of the San Diego County Dental Society, he has been chairman of the society's Dental Health Committee, editor of its publication the Bulletin, a member of its speaker's bureau, and chairman of the Council on Dental Health of the Southern California State Dental Association. He also is a member of American Association of Dental Editors, and Dental Health Advisory Committee of the Department of Public Health of the State of California. He is a graduate of Brigham Young University and the School of Dentistry of Northwestern University. In 1959 he was awarded fellowship in the American College of Dentists.

Shock

A seaweed chemical mixed with water can be used instead of whole blood to prevent shock during operations or after severe burning, report two Japanese physicians. In the December issue of the Journal of the International College of Surgeons, Drs. Masanobu Tomoda and Kyoshi Inokukuchi state the chemicals, a version of sodium alginate, is derived from cells of brown algae that grow in colonies as seaweed. They reported solutions of the gelatin-like substances have been used successfully in place of whole blood transfusions in 102 abdominal operations.

M. D Suggests Respect for Throat Lozenges

Increased respect for topically given drugs which may evoke sensitivity reactions is called for by the author of an article in the January 2nd issue of the Journal of the American Medical Association.

Dr. Donald J. Hesch cites a case of anaphylactic death attributed to a medicament in a common throat lozenge. The lozenge contained benzocaine and tyrothricin.

Dr. Hesch points out that there are 19 throat lozenges on the market which contain one or both of these ingredients and that many of the lozenges can be obtained without a prescription.

Immunity Test

Four hundred infants at New York's Bellevue Hospital have been given Sabin live polio vaccine to determine if they can be immunized permanently. Dr. Morris Greenberg of city health department reports none of the infants have shown any adverse effects in the first three months. It takes six months to determine whether immunization has been achieved.

Smoking

A recent sample survey of the adult population of Edinburgh, Scotland showed smoking was more often given up on financial than on health grounds. Fear of lung cancer was rarely mentioned as a reason. One person in 10 claimed to have given up smoking permanently. More than 50% of smokers had made at least one attempt to do so.

Slow Down and Live

Provincial and State safety coordinators of the "Slow Down and Live" campaign in Canada and the United States have developed a series of highway safety tips to help motorists to "have nothing but fun" on their summer trips.

Drivers are urged to take the following precautions:

1. Keep your car in top mechanical condition. Steering gear, brakes and lights are especially important. Watch your tire pressure. Improperly inflated tires plus summer-hot roads can equal blowout disaster!
2. Keep your eye on the cars behind and in front of you. Anticipating what the other fellow may do is an essential of safe driving. Keep your distance—a car's length for every ten miles of speed.
3. Stay alert at all times. On long, monotonous drives, stop every two hours for a coffee-break (iced coffee is just as effective as hot for sharpening your reflexes). Get out of the car, walk around, relax for a few minutes.
4. Share the wheel if you can. Don't fight fatigue. Pull over to the side of the road and take a rest. You'll lose a few minutes . . . but perhaps save your life!
5. Know and obey all traffic regulations, especially speed laws. Speed too fast for conditions is the most common cause of fatal highway accidents.

"Slow Down and Live!" is the recommendation of the Canadian Highway Safety Council and of the Association of State and Provincial Safety Coordinators.

NOTICE TO CONTRIBUTORS

COMMUNICATIONS:

Original manuscripts and correspondence should be sent to — Editor, Journal of the Canadian Dental Association, 234 St. George St., Toronto 5, Ontario, Canada.

MANUSCRIPTS:

Original articles are accepted for publication with the understanding that they are contributed solely to the C.D.A. Journal and that they have been published elsewhere and will not be reprinted without permission. All manuscripts are subject to editorial modification. Neither the editor nor the publishers accept responsibility for the views and statements of authors expressed in their communications.

Manuscripts should be double or triple spaced typewritten on 8½" x 11" paper using one side only, leaving wide margins. The original should be sent to the editor and a copy retained by the author. Each page should be numbered. The author's name and abbreviated title of the article should appear at the top of each manuscript page. The title should appear at the top of the first page with the main words capitalized. The author's name and degree(s) should be two lines below and if the author wishes to give his affiliations these should be listed as a footnote and referred to by the asterisk after his name and degree(s).

BIBLIOGRAPHY OR REFERENCE LIST:

The bibliography or reference list should appear on a separate page. It is preferable to

mention only the authors whose material has been used and to designate the reference within the text by means of a superior numeral, e.g. earlier findings by Smith¹ revealed that . . . References should be arranged numerically in order of their appearance in the text in preference to alphabetical order. References should be arranged as follows: citation number, last name of the author, first name and initial, title of the article, name of the journal or text with volume, pages, month and year.

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IN MEMORIAM

Marshall Ellsworth Ritchie—Dr. Marshall Ellsworth Ritchie of St. Boniface, Manitoba, died on April 7th. He was 65.

Born in Gelert, Ontario, he went west with his parents as a child to Boissevain, Manitoba, where he received his early education. He graduated from the Toronto Dental College in 1923 and set up practice in Brandon, Manitoba. He later became the first dentist to practice in St. Boniface in 1924.

Dr. Ritchie was a veteran of the First World War and was a member of the Manitoba Dental Association.

He is survived by his widow, Adelaide and a daughter, Marilyn.

Thomas F. Blight—Dr. Thomas F. Blight of Winnipeg, Manitoba, died in April at the age of 61.

Born in Brandon, Manitoba, he received his early education there and graduated from the R.C.D.S. of Ontario in 1923. He went to Winnipeg in 1924 where he practised until his death. He went overseas in the First World War with the 196th University Battalion, transferring to the 27th City of Winnipeg Battalion. He was later seconded to the Royal Flying Corps. In the Second World War he was active in the formation of the Seven Oaks Air Cadet Squadron.

Dr. Blight was president of the Winnipeg Dental Society in 1946-47, and was honorary president and a life member of the Wartime Pilots' and Observers' Association. He was secretary-treasurer of the 2T3 and 2T4 Club, and also a member of the Quarter Century Canukeena Club. He was a former member of the Winnipeg Golf Club, Elmhurst Club and the Winnipeg Winter Club.

He is survived by his widow, Margaret; one daughter Joanne; and one brother, Launcelot J.

Joseph Alan Priestman—Dr. Joseph Alan Priestman of Toronto, Ontario died on April 7th. He was 69.

Dr. Priestman was born in Toronto and received his early education there. He grad-

uated from the R.C.D.S. of Ontario in 1915 and practised in Toronto until his retirement due to ill health in 1955.

He was one of the judges for the Canadian figure skating championships in Winnipeg in 1917.

Dr. Priestman is survived by his widow, Rita; a brother, Jack, and a nephew, Alan.

Jack Eaton MacNeily—Dr. Jack Eaton MacNeily of Camp Borden, Ontario, died on April 11, 1960. He was 33.

Dr. MacNeily was a Captain in the Royal Canadian Dental Corps. He was formerly from Halifax, N.S. and graduated from Dalhousie University, Faculty of Dentistry in 1957.

Surviving is his widow, Norine.

Maurice Baillargeon—Dr. Maurice Baillargeon of Cte. Gaspé, Quebec, died on March 26. He was 41 and 11 months.

Dr. Baillargeon was born at St. Pierre, Cte. Montmagny, Quebec in 1918 and graduated from the Faculty of Dentistry, University of Montreal in 1946.

George Guelph Armitage — Dr. George Guelph Armitage of Montreal, P.Q., died on May 1st. He was 77.

Dr. Armitage was born at Sherbrooke in 1882. He graduated from the University of Bishops College in 1905 and set up practice in Montreal.

He was an active member of his profession and was Governor of the College of Dental Surgeons of P.Q. from 1928 until his death and was president from 1934 to 1936. He was president of the Council on Discipline from 1942 and Assessor of C.D.S.P. from 1944 until his death, and he was also an Honorary Member of the C.D.S.P.Q. and of the C.D.A. Dr. Armitage was an Alderman for Montreal West.

Surviving are two sons, George and Drummond.

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1960	Ottawa, Ontario	Sept. 25th-28th
1961	Saskatoon, Saskatchewan	June 4th-7th
1962	Vancouver, British Columbia	June 3rd-6th

1967	Toronto, Ontario	May
	(Centennial Celebration of Dentistry in Canada)	

FUTURE EVENTS

Date	Function	Location	Officer	Address
July 11-14, 1960	Eleventh Triennial Pacific Coast Dental Conference	Portland, Oregon	Dr. J. R. Jensen, Secretary	1033 S.W. Yamhill St., Portland 5, Oregon.
Aug. 14-18, 1960	16th Australian Dental Congress	Sydney, New South Wales, Australia	Dr. D. Freeman, Hon. Sec.	185 Elizabeth St., Sydney, New South Wales, Australia.
Sept. 9-10, 1960	Northern Ontario Dental Ass'n Convention	Coulson Hotel, Sudbury, Ont.	Dr. G. P. Copeland	47 Davidson St., Sudbury, Ontario.
Oct. 8-12, 1960	17th Annual Meeting, Institute of Oral Biology	Palm Springs, California	Dr. H. Becks	2240 Channing Way, Berkeley 4, Calif.
Oct. 19-21 1960	35th Annual Fall Clinic — Montreal Dental Club	Queen Elizabeth Hotel, Montreal	Dr. D. Bruce Ward, Chairman	1414 Drummond St., Suite 309, Montreal, P.Q.
Dec. 5-9, 1960	36th Annual Greater N.Y. Dental Meeting	Statler Hilton New York City	Mrs. M. Purdy	Room 106A, Hotel Statler Hilton, New York 1, N.Y.

FIRST DISTRICT DENTAL SOCIETY POSTGRADUATE DEPARTMENT

The following postgraduated courses are presented:

An Introduction to Orthodontics	October 3, 4, 5, 6, 7, 8, 1960
Preparation for State Board Examinations Covering Practical Aspects of Prosthetics, Crown and Bridge and Operative	October 10, 11, 12, 13, 14, 15, 1960
Periodontics	October 19, 20, 21, 1960
Occlusal Equilibration	October 28, 29, 1960

For further information please write to: The Postgraduate Dept., First District Dental Society, Hotel Statler Hilton, New York City 1, N.Y.

HUMBOLDT UNIVERSITY OF BERLIN

The celebration of the 250th anniversary of the Charité will be held in Berlin from November 6 to November 19, 1960, in connection with the 150th anniversary of the Humboldt University. Applications for participation are to be directed to the Committee for the Preparation of the 250th anniversary of the Charité, Berlin N4, Schumannstrasse 20-21, c/o Dozent Dr. med. habil. Dagobert Müller, secretary of the committee.

L'Association Dentaire Canadienne.

Volume 26

Numéro 6

juin 1960

JOURNAL

Les services dentaires face aux systèmes d'assurances

Par RENÉ LEFRANÇOIS, B.A., D.D.S., Montréal

Le rythme sans cesse croissant avec lequel se multiplient de nos jours les plans d'assurances de toutes sortes, nous amène devant un fait bien établi: la grande popularité des systèmes d'assurances dans la vie de tout citoyen du XXⁱème siècle. Ces assurances, en majeure partie, portent sur la vie, les accidents, le feu et le vol, mais n'allons pas nous imaginer que le monde médical ait échappé à cet attrait. Bien au contraire, car aujourd'hui les gens ont pris l'habitude de s'assurer contre les risques inhérents à la santé c'est-à-dire de payer à l'avance pour leurs nécessités médicales et hospitalières. Ceci suscite immédiatement dans nos esprits une question, fort à propos d'ailleurs, à savoir: Pourquoi n'existent-ils pas de plans d'assurances pour les traitements dentaires?

Nous pouvons répondre, d'abord, que de tels plans existent dans de nombreux pays et que là où il n'y en a pas, on étudie la possibilité d'en établir. C'est donc à dire qu'ils sont considérés comme essentiels à tout système bien équilibré. Les officiels de la santé insistent même pour dire que tout programme d'assistance publique pour être compréhensif, doit inclure la dentisterie, le public devenant de plus en plus conscient du rôle primordial que peut jouer cette science médicale sur la santé de chaque individu.⁽¹⁾ Cependant, si ces systèmes prennent des formes très diversifiées selon les exigences du public auquel ils s'adressent, les principes fondamentaux en sont les mêmes: rendre les soins dentaires accessibles à la plus grande partie de la population. Mais, jusqu'où de tels systèmes d'assurances peuvent-ils véri-

tablement jouer le rôle que l'on veut leur donner? Pour le savoir, il n'y a rien de mieux que de faire l'ETUDE DES SERVICES DENTAIRE FACE AUX SYSTEMES D'ASSURANCES.

I

HISTORIQUE ET EVOLUTION

Si on remonte un peu dans l'histoire de l'évolution de l'homme, on remarque qu'il a perfectionné progressivement ses instruments de travail jusqu'à un degré de perfection tel qu'il s'est aperçu bien vite que ses inventions mécaniques prenaient, d'ores et déjà, une grande place dans sa vie de tous les jours. L'ère de la machine était lancée avec tous les chambardements sociaux que cela devait apporter. Avec cette industrialisation, stimulée par les découvertes scientifiques, l'ouvrier voyait sa santé beaucoup plus exposée qu'auparavant. Sa sécurité, autrefois entravée par les guerres, la famine, le feu, les inondations et autres cataclysmes du même genre, allait être mise davantage en péril par les tensions de la production en série, les dangers de grève et d'inflation avec tout ce que cela comporte.⁽²⁾ C'est alors qu'il décida de se grouper avec ses compagnons de travail pour former des sociétés volontaires qui allaient les protéger contre les risques inhérents à leur travail. Ils firent donc, une mise de fond commune qui avait pour but justement de diminuer la responsabilité individuelle de chacun d'eux tout en augmentant leur puissance comme groupe. Les bases de l'assurance-santé étaient nées.

Revoyons brièvement, à travers l'histoire, les différents mouvements communautaires qui allaient être, en fait, les pionniers de l'assurance-dentaire. Au Moyen-Age, on voit apparaître des corps de métier qui offrent des secours à leurs membres en cas de blessures ou maladies. Au XIV^{ème} siècle, différents groupements accordent une grande importance à l'entr'aide mutuelle grâce à des caisses accessoires alimentées par des contributions calculées approximativement. Au XVII^{ème} siècle, l'évènement marquant

est, sans contredit, la découverte de la loi de mortalité et la publication en 1850, des tables de Ratcliffe, surnommé le père de la science actuarielle des sociétés de secours mutuels. Ces faits allaient "fournir une base mathématique au développement de l'assurance en tant qu'entreprise commerciale"⁽³⁾

Mais, avec le temps, ces sociétés mutuelles oublièrent leur but humanitaire et devinrent matérialistes. Aussi, au XVIII^{ème} siècle, la tyrannie des corporations de maîtres fut la cause d'une régression à un point tel, qu'en 1835 leurs privilèges furent abolis par une loi en Angleterre et bientôt en France, lors de la Révolution.⁽⁴⁾ En 1883, le premier plan d'assurance-maladie est instauré en Allemagne. En 1887, la Great Western Railway d'Angleterre ajoute un service dentaire aux services médicaux et chirurgicaux déjà offerts à ses employés. Trois ans plus tard, ce mouvement se propagea à l'Amérique du Nord, alors que la Barbara Match Company organisa pour ses employés un programme dentaire. En 1900, à Rio de Janeiro, Brésil, le Dr Baretto offrit aux 300 employés de la Cia Lug Stearica un service dentaire qui exista plus d'un quart de siècle.⁽⁵⁾ Tous ces systèmes, sauf celui de l'Allemagne, furent des plans volontaires.

A l'exemple de l'Allemagne, plusieurs autres pays adoptèrent un système d'assurance obligatoire pour la maladie: Luxembourg 1901, Norvège 1909, Serbie 1910, Angleterre et Russie 1911, Roumanie 1912.⁽⁶⁾ D'autres pays européens, le Japon, l'Australie, la Nouvelle-Zélande et quelques pays de l'Amérique du Sud allaient bientôt suivre cette tendance. Mais est-ce à-dire que ces assurances-maladies incluaient toutes, les soins dentaires? Dans certains pays ce fut le cas et dans les autres où la dentisterie fut omise, on a dû les inclure à la demande même des assurés. Comme on le voit, les assurances dentaires ne sont pas le résultat d'un hasard ou d'un caprice mais bien une nécessité fondamentale tant pour le bien-être de l'individu que celui de l'Etat tout entier.

QU'ENTEND-T-ON PAR "ASSURANCES DENTAIRES"

Donnée du Problème:

Peut-on concilier "assurances" et traitements dentaires, car au prime abord, ces deux termes semblent incompatibles entre eux. Par "assurances", on entend une protection contre un malheur qui peut fort bien ne pas se produire. Ainsi, lorsque l'on parle d'assurance contre la maladie et les frais d'hôpitaux ce mot a son sens véritable. "Or, les maladies dentaires, comme la carie, sont des calamités contre lesquelles on ne peut s'assurer".⁽⁷⁾ En effet, il ne fait aucun doute pour personne que l'incidence de la carie est très grande; certains vont même jusqu'à dire que c'est la maladie la plus fréquente de nos jours. De plus, la carie dentaire est une maladie cumulative puisqu'elle ne se guérit jamais d'elle-même. Nous savons, par ailleurs, qu'une personne qui n'a jamais eu de carie, qui n'a aucune obturation, est assez rare aujourd'hui: dans certains pays ou cities, plus de 99% des habitants sont atteints de caries.⁽⁸⁾ Donc, à toute fin pratique on peut affirmer qu'éventuellement toute la population en souffrira tôt ou tard.

Ensuite, il y a le fait que le contrôle des caries dentaires, pour être un succès, dépend du traitement institué à bonne heure et répété par la suite à des intervalles réguliers et périodiques. Les soins dentaires requièrent des procédures thérapeutiques qui ne sont pas volontiers sujets à un traitement de masse; conséquemment, le traitement prend beaucoup de temps et est coûteux.⁽⁹⁾ Il est inutile de noter ici que la dentisterie contemporaine avec ses techniques de plus en plus perfectionnées est devenue extrêmement onéreuse et que, par surcroît, les traitements médico-dentaires sont de plus en plus recherchés par les gens. S'ajoute à tout cela, le souci de l'épargne qui est quasi inexistant de nos jours. D'où, l'individu à salaire moyen n'a plus l'argent nécessaire pour faire face aux frais toujours croissants qu'occasionne cette maladie. Voilà, je pense, ce qui explique la vogue actuelle qui existe pour tout

ce qui a trait aux assurances. Il faut donc, en venir à la conclusion que l'assurance au sens véritable de ce mot ne peut être appliquée aux soins dentaires ou, du moins, qu'il faut une formule plus souple si on veut y parvenir.

DEFINITION D'UNE ASSURANCE DENTAIRE:

"C'est une mise en commun des risques et des ressources pour indemniser et garantir le paiement des soins dentaires. Elle offre deux genres de bénéfices:

- 1—Une indemnité qui paie pour certains services spécifiques, par exemple, les compagnies d'assurances paient des montants définis pour des interventions chirurgicales définies.
- 2—Un genre de service qui paie la totalité au coût des services, par exemple la Commission des Accidents du Travail qui paie pour tous les services dans leur entier."⁽¹⁰⁾

Voilà une belle définition, si l'on veut, mais peut-on assurer les risques dentaires? Le Dr F. G. Dickinson, directeur du Bureau des Recherches économiques médicales de l'Association médicale américaine, a établi sept principes de base pour l'assurance. Ces principes, la Conférence de l'Université du Michigan en a étudié l'application pour une assurance des services de santé dentaire. Voici ces principes et leurs applications dentaires:⁽¹¹⁾

- 1—"Le risque doit obéir aux lois de la probabilité mathématique. En d'autres mots, on doit pouvoir prédire d'une façon assez juste combien souvent se produira l'accident contre lequel on s'assure."
Comme dans des groupes de population, on peut évaluer l'incidence et la prévalence de certaines maladies dentaires, on peut supposer que ce principe s'applique au moins à ces maladies dentaires qui peuvent être évaluées.
- 2—"Il faut que l'assuré y trouve son intérêt. L'assuré doit être convaincu qu'il peut subir une perte financière importante si l'accident contre lequel il désire être assuré se produit."

Ce principe s'applique en dentisterie puisque l'on peut présumer que quiconque s'assure dans un plan de santé est financièrement intéressé à sa santé et à celle de sa famille. "Cependant les bénéfices qu'offrira une assurance dentaire doivent être suffisamment grands pour justifier le paiement des primes."⁽¹²⁾

- 3—"Il faut que des risques nombreux se répartissent sur un territoire suffisamment grand. Il faut aussi que les risques soient diversifiés pour éviter qu'un grand nombre de personnes, toutes assurées dans le même genre de police, tombent malades en même temps. Si un assez grand nombre de personnes assurées dans le même groupe, tombaient malades en même temps, la compagnie subirait une perte assez considérable."

Comme presque tout le monde, excepté les plus jeunes et les plus vieux, ont besoin de traitements dentaires chaque année, on ne pourrait pas appliquer ce principe dans le domaine dentaire. On pourrait contourner cette difficulté soit en limitant les bénéfices à maladies peu fréquentes, soit en limitant les services à de l'entretien, une fois que les dents ont été mises en ordre.

- 4—"L'assuré doit attacher de l'importance au risque contre lequel il s'assure. Si l'assuré n'attache pas ou peu d'importance au risque contre lequel il s'assure, mieux vaut pour lui ne pas s'assurer." On peut remplir cette condition à l'aide d'éducation dentaire. Beaucoup de monde se désintéressent des soins dentaires mais on a prouvé en plusieurs occasions qu'une campagne soutenue et bien organisée en hygiène dentaire peut susciter le désir d'une bonne santé dentaire.
- 5—"Il faut que le hasard joue un certain rôle dans le déclenchement de la calamité contre laquelle protège une assurance. Si une personne sait d'avance que tel événement se pro-

duira à telle époque donnée, cet événement ne se soumet plus aux principes de l'assurance. Dans ce cas, il vaudrait mieux organiser son budget pour faire face à telle situation donnée."

Comme le hasard ne joue aucun rôle quand on sait souffrir de quelque maladie dentaire et comme une assurance couvre les risques et groupe ensemble ces risques et leurs coûts, un plan dentaire pré-payé, par exemple, ne devient une assurance seulement après que l'élément hasard commence à jouer.

- 6—"Le fait d'être assuré ne devrait pas porter à augmenter les risques. C'est ce qu'on veut dire quand on parle de la disparition du hasard moral. Ainsi, il ne faut pas que l'assuré, par le fait qu'il est assuré, exagère ses réclamations pour les services de santé." A part quelques exceptions, ce principe peut aussi bien s'appliquer à une assurance dentaire qu'à une assurance médicale puisque l'assurance, en elle-même n'aurait pas de tendance à augmenter les risques des maladies dentaires pas plus qu'une assurance médicale augmente les risques de maladie.
- 7—"On doit pouvoir évaluer le risque financier d'une telle entreprise. Cette condition s'applique surtout au coût plutôt qu'au nombre des réclamations d'un groupe donné d'assurés comme il en est question dans le premier principe. Il est important de connaître le coût d'une telle entreprise, car indirectement il a une influence sur le montant des primes et sur la protection accordée. Si on ne connaît pas le coût de la protection, il faut fixer une prime appropriée."

Au premier abord, cette difficulté peut paraître insurmontable. Cependant, quand le risque d'assurance est difficile à déterminer, on peut le contrôler par des méthodes fréquemment employées par les assureurs.

"1—On pourrait utiliser le système des indemnités par lequel l'assurance paie des

honoraires fixés à l'avance pour des services définis et l'assuré comble la différence.

2—Par une entente fixée au préalable, le dentiste pourrait percevoir une proportion d'honoraires moindre que la normale, si les revenus des primes ne se chiffraient pas au montant total des comptes d'un groupe donné de dentistes pour une certaine période de temps.

3—On pourrait employer un genre d'assurance qui a la faveur du public et par lequel la compagnie paie tous les honoraires en partie ou en totalité. La chose existe à la Commission des Accidents du Travail de l'Ontario où on a établi une liste des honoraires payables pour des services définis.

4—On pourrait insérer la clause de déductibilité pour éliminer les petites réclamations. Comme une telle clause dans un plan dentaire nuirait beaucoup aux traitements réguliers de prévention, il vaudrait mieux y inclure certains traitements préventifs comme des examens et des prophylaxies, des radiographies tous les ans et ensuite faire jouer la clause de la déductibilité.

5—On pourrait enfin former une assurance ayant le caractère d'une coopérative où l'assuré est financièrement intéressé au succès de l'entreprise. Ainsi, la compagnie pourrait payer 75% des honoraires et l'assuré 25%.⁽¹³⁾

Maintenant que nous savons que les risques dentaires sont assurables, voyons quels sont les principaux systèmes actuellement en vigueur de par le monde. Bien entendu, il ne s'agit pas pour nous d'analyser tous les plans d'assurance jusque dans leurs moindres détails mais plutôt exposer brièvement les systèmes les plus significatifs de notre époque. Disons tout de suite qu'il y a trois formules précises pour répondre aux besoins présents de la dentisterie, soit à l'échelle gouvernementale, soit à l'échelle privée.

Echelle Gouvernementale:
Assurance-Santé Nationale
Obligatoire
ou
Facultative

Echelle Privée:
Assurance à Paiements
Anticipés (Prépayés)
Retardés (Post-Payés)

Voilà l'angle sous lequel nous envisagerons les différents systèmes d'assurances au cours de l'exposé qui va suivre.

II

ASSURANCES DENTAIRES À L'ECHELLE GOUVERNEMENTALE OU NATIONALE

Les assurances comprises, de cette façon, peuvent se définir ainsi: C'est un système d'administration médicale par lequel l'Etat fournit les soins médicaux et dentaires à une grande partie ou à toute la population et sous lequel tous les praticiens sont employés, dirigés et payés par l'Etat sur une base de salaire ou autrement.⁽¹⁴⁾ C'est en quelque sorte, une médecine, une dentisterie d'Etat. Ceci peut se faire sur une base soit obligatoire, soit facultative. Dans un système obligatoire, tous les gens doivent participer au plan en ce sens que tous doivent payer, tandis que dans le système facultatif, ils sont libres d'adhérer au plan ou non. Avec l'adoption de ce système d'assurance en Allemagne (1883), cette notion d'assurance-santé a fait si bien son chemin qu'aujourd'hui près de 50 pays à travers le monde ont des régimes d'assurance-maladie à peu près semblables.

Evidemment, les moyens adoptés varient d'un pays à l'autre suivant la mentalité des populations et de leur degré d'évolution sociale mais le principe reste le même: assurer la protection du travailleur et de sa famille contre la maladie, cette protection pouvant s'étendre éventuellement à tous les citoyens. La santé de chaque individu est alors devenue un bien public et de ce fait, c'est la responsabilité de l'Etat de la protéger.

En Europe, presque toutes les formes d'Assurance-santé existent. Aussi pour simplifier cette question nous envisagerons ces systèmes du point de vue du mode de paiement au praticien et de sa liberté individuelle. Sous cet angle, on peut distinguer trois systèmes principaux: ce sont ceux de l'U.R.S.S., de l'Angleterre et de la France qui sont les chefs de file de ces systèmes.

SYSTÈME SOVIÉTIQUE

Ce système, en fait, résume tous les plans d'assurances qui existent dans la plupart des pays situés derrière le rideau de fer: la Pologne, la Tchécoslovaquie, la Roumanie, la Bulgarie, l'Ukraine et la Yougoslavie.

Objet:

Ce plan s'adresse aussi bien aux adultes qu'aux enfants.

Administration:

C'est le gouvernement qui administre et gère ce plan. En conséquence, les patients sont traités gratuitement par les médecins et dentistes. Ceux-ci reçoivent de l'Etat un salaire fixe pour un nombre d'heures minimum de travail par semaine. Après ce nombre d'heures, ils sont rétribués en conséquence.

Fonctionnement:

La procédure en est très simple. Le patient qui veut se faire traiter, se rend dans des cliniques (les bureaux privés n'existent pas) où médecins et dentistes lui prodiguent les soins appropriés. Il y aurait de 18 à 22,000 cliniques, dispensaires, services et hôpitaux dans les centres urbains de Russie. Les campagnes, elles, sont desservies par des autobus spéciaux que l'on dit être parfaitement organisés. De plus, on a rendu les traitements au fluor obligatoires pour tous les enfants et dans l'ensemble, la qualité des soins paraît être excellente.

Appréciation:

Le dentiste, tout comme le médecin, est un salarié de l'Etat à plein temps. Il n'a pas de bureau privé et ne peut en avoir. Ensuite il n'y a aucune liberté ni chez le patient qui ne peut choisir son dentiste ni chez le dentiste qui doit exercer le travail qu'on lui impose. Bref, c'est une véritable étatisation de la médecine et de la dentisterie et cette philosophie de la vie professionnelle ne serait certainement pas goûtée dans nos pays libres bien qu'elle donne d'excellents résultats dans les pays totalitaires.⁽¹⁵⁾

SYSTÈME ANGLAIS:

Avec ce système, nous passons au deuxième groupe de pays: soit l'Angleterre,

la Suisse, l'Italie et le Danemark. Comme ces pays ont des systèmes d'Assurance-santé à peu près identiques, nous nous bornerons ici à analyser le régime de la Grande-Bretagne puisque c'est celui que tout le monde connaît le mieux.

Objet:

Ce plan s'adresse à toute la population. Au début, cependant, l'Angleterre possédait un plan d'assurance-sociale qui ne s'appliquait qu'aux salariés. Mais depuis 1945, sous la poussée travailliste, on a accordé cette gratuité des soins à toutes les classes de la société.

Administration:

Le gouvernement anglais administre ce système avec l'aide du Comité exécutif des Services et du Comité dentaire des Estimations, qui pourvoient au bon fonctionnement des différents services. Etant donné que le patient reçoit les soins appropriés gratuitement, ce sont, en définitive, les impôts et les taxes qui assurent le financement du Service national. "Le dentiste est payé à l'acte opératoire directement par le comité exécutif à qui il présente la note de frais et ceci suivant un tarif établi par le gouvernement."⁽¹⁶⁾

Fonctionnement:

Le dentiste est libre d'adhérer ou non au Service. Mais, en fait, plus de 95% des dentistes sont inscrits aux Comités exécutifs des Services qui sont répartis par secteur. Le patient est libre de choisir le dentiste qu'il veut pourvu qu'il soit inscrit au Service. Les travaux mineurs ne nécessitent aucune autorisation pour être exécutés tandis que les autres traitements exigent une approbation au préalable. Le dentiste doit donc établir un devis et le soumettre au Comité des Estimations qui l'accepte, le modifie ou le rejette. Et, en cas de refus, le patient peut faire faire le travail à ses propres frais. Par ailleurs, le dentiste a toute liberté de traiter autant de patients qu'il veut ou qu'il peut.

Evidemment cette assurance-santé a eu pour effet d'augmenter considérablement le travail. Aussi, les dentistes n'ont pu répondre à la demande. Pour remédier à cela, on a dû établir un système de prio-

rité. Les infections graves et les douleurs violentes sont considérées comme étant des cas d'urgence.

Appréciation:

Ce qu'il faut retenir surtout de ce système c'est que le dentiste est payé à l'acte par l'Etat. "Ce n'est pas un salarié comme en Russie mais il doit, pour se faire payer, traiter directement avec ce que l'on est convenu d'appeler un "Tiers payant" Cette conception du "Tiers payant", est extrêmement importante car ce "Tiers payant", l'Etat, se glisse entre le patient et le praticien. Il fixe le tarif et il devient rapidement exigeant sur l'utilité d'un traitement contrôle et finit par limiter la liberté d'exercice du dentiste."⁽¹⁷⁾

D'ailleurs avec les années, ce système a apporté un malaise profond dans la profession car cette gratuité totale a amené une telle demande que tout travail sérieux devint impossible. Ici la qualité cède le pas à la quantité. C'est un travail de chaîne qui ne donne satisfaction ni aux dentistes ni aux patients. Bref, le programme anglais démontre que c'est une mauvaise façon de s'attaquer au problème de la santé dentaire. Il met surtout l'accent sur la dentisterie restaurative au dépend de la dentisterie préventive, sans laquelle on ne pourra jamais relever le niveau de la santé dentaire.⁽¹⁸⁾

SYSTÈME FRANÇAIS:

Le "Système de la Sécurité sociale française" est en vigueur depuis 1930 et il est un de ceux qui se mérite les plus beaux éloges tant dans la part des dentistes que du patient lui-même.

Objet:

Il s'adresse à tous les salariés et les membres de leurs familles (environ 80% de la population) qui doivent obligatoirement faire partie de la Sécurité Sociale.

Administration:

Le paiement des soins se fait par les caisses d'Assurances régionales qui sont, elles-mêmes, alimentées par des prestations payées par les salariés et leurs patrons, exactement comme ici pour l'Assurance-Chômage.

Fonctionnement:

Si un assuré désire se faire traiter, il demande à la Caisse régionale une feuille spéciale dite de traitement. Puis, il présente cette feuille au dentiste qui, après avoir exécuté les travaux jugés nécessaires, les incrits au fur et à mesure. Cette inscription, il est intéressant de le noter, se fait selon un code-clé qui respecte le secret professionnel. Une fois les traitements terminés, le patient paie le dentiste qui lui remet sa feuille de traitement dûment signée et acquittée. Par la suite sur présentation de cette feuille, l'assuré se fait rembourser à la Caisse d'Assurance dans une proportion de 80%. Les autres 20%, le patient doit les payer de sa poche. C'est ce que l'on appelle le Ticket Modérateur.

Ceci a été établi dans le but de freiner les demandes d'assistance et d'éviter les abus. Les résultats se sont montrés excellents puisque l'encombrement des bureaux a été évité. Cependant, pour la prothèse et certains traitements pouvant se montrer onéreux, il faut que l'assuré en demande l'autorisation au préalable, à la Caisse d'Assurance.

Appréciation:

Le système français n'a donc pas de "Tiers payant", puisque le patient paie directement son dentiste sur remise de la feuille de Traitement acquittée. Et, il semble être celui qui respecte le mieux les fondements de la profession dentaire à savoir:

- 1—Liberté du choix du praticien.
- 2—Liberté de prescription.
- 3—Sauvegarde du secret professionnel.
- 4—Paiement direct des honoraires par le malade.

Ce qui fait le succès de ce système c'est que "cette formule ne transforme pas le dentiste en un fonctionnaire plus ou moins déguisé et que les rapports entre praticien et patient respectent la confiance et la liberté, deux sentiments indispensables au maintien de la conscience professionnelle".⁽¹⁹⁾

III

ASSURANCES DENTAIRES A
L'ECHELLE PRIVEE

Au cours des dernières années, il est devenu extrêmement populaire pour de larges segments de la population de considérer de nouvelles façons de financer le coût des soins dentaires. Evidemment, nous voulons parler ici des plans d'assurances à paiements anticipés, et à paiements retardés. Ce sont d'ailleurs, les deux derniers plans d'assurances qu'il nous reste à analyser.

SYSTEME D'ASSURANCE PREPAIEMENT

Avec ce genre de système, nous abordons le seul plan d'assurances qui soit véritablement une assurance au sens stricte de ce mot parce qu'en définitive, il assure réellement le patient contre les risques dentaires. C'est ce qui fait qu'un tel système obtient présentement une si grande faveur auprès du public. Cette vogue pour l'assurance prépayée vient encore du fait qu'aujourd'hui, la population commence à réaliser toute l'importance que joue la santé dentaire dans l'équilibre physiologique de l'organisme. Aussi, des groupes de consommateurs sous l'égide d'unions, d'employeurs ou d'organismes coopératifs essaient par tous les moyens de s'assurer contre les déboursés encourus par les maladies dentaires. Les systèmes d'assurances prépaiement sont d'excellents moyens pour atteindre ce but. C'est ce qui explique certainement leur grande popularité. Cependant, comme il existe de nombreux plans d'assurances prépaiement dans le monde, nous nous contenterons de décrire trois des systèmes les plus significatifs de ce groupe, à savoir: le I.L.W.U.-P.M.A., le plan d'assurance groupe de New-York, et le plan de la province d'Alberta.

I.L.W.U.-P.M.A.

Le I. L. W. U. - P. M. A. (International Longshoremen's and Warehousemen's Union) est un plan de services dentaires prépayés en opération dans la plupart des grandes villes et quelques petites municipalités de la Côte Ouest américaine [San Francisco, Los Angeles, Portland

(Oregon) et Seattle, (Washington)]. Ce plan existe depuis 1954, alors que l'Union Internationale des Débardeurs et Employés d'Entrepôts en est venue à une entente avec la Pacific Maritime Association au sujet d'un projet expérimental de soins dentaires à paiements anticipés, financé par une caisse d'assistance mutuelle avec un fond de réserve.

Objet:

C'est un plan valable pour tous les enfants de 15 ans et moins, des membres de l'Union. Après cet âge, l'assurance n'est plus valide pour eux.

Administration:

On a confié l'administration de ce plan à la compagnie d'assurance Continental Casualty. Cette compagnie a la charge de payer les honoraires aux dentistes qui adhèrent à ce plan, sur réception de leurs réclamations détaillées. La compagnie à son tour, se fait rembourser par l'Union plus 2% pour défrayer l'administration de ce système.

Fonctionnement:

L'enfant, ainsi assuré, peut choisir entre les deux options de ce plan, à savoir:

1—Un programme d'assurance qui est un système où le bénéficiaire est indemnisé partiellement pour chacun des traitements qu'il reçoit. Tous les déboursés jusqu'à une certaine limite sont défrayés par l'organisation centrale et les bénéficiaires n'ont pas de contrôle direct sur le mécanisme ou les frais du programme.²⁰ En plus d'une certaine indemnité limite pour les obturations de leurs dents (\$75.00 en Californie \$95.00 en Oregon et Washington) les enfants des membres de l'Union sont protégés jusqu'à concurrence de \$150.00 contre tout accident de leurs dents naturelles. Ce plan comporte donc, une limite de traitements et le patient doit déboursier le montant qui sera en excès de cette limite.

2—Un programme de service dentaire "qui offre ou bénéficiaire une protection pour un service dentaire donné pour lequel l'Union passe un contrat directement avec un groupe de dentistes."²¹ Dans ce plan, le bénéficiaire est loisible de faire

traiter ses dents au complet mais les déboursés varient considérablement d'un individu à l'autre. Le remboursement d'un tel service se fait au moyen d'une allocation de tant par tête, additionnée d'une prime fixée à l'avance. Ainsi, l'Union verse un montant fixe pour chaque enfant tous les mois." Cette somme mensuelle est basée sur le nombre d'enfants inscrits au plan; on fixe un taux pour 500 enfants, un autre pour 1000 et ainsi de suite."⁽²²⁾

Ces deux plans comportent tous les soins dentaires sauf les traitements d'orthodontie et ceux d'ordre essentiellement esthétique.

Appréciation:

Voilà un plan expérimental qui a donné d'excellents résultats s'il faut en croire le rapport publié dans le *Journal American College of Dentists*⁽²³⁾ en ce sens que dentistes et patients ont été pour la plupart très satisfaits d'un tel plan basé sur la prévention puisqu'il s'adresse aux enfants. C'est ce qui fait tout l'attrait de ce plan.

PLAN D'ASSURANCE-SANTÉ GROUPE DE NEW-YORK

Ce plan à paiement anticipé a créé un grand intérêt tant au Canada qu'aux Etats-Unis.

Objet:

"Placer les soins dentaires adéquats sur une base de budget et mettre les soins négligés accumulés en dedans d'une limite supportable."⁽²⁴⁾

Il s'applique aux adultes aussi bien qu'aux enfants et est limité à 25,000 souscriptions qui, pour y adhérer, doivent faire partie d'un groupe de 40 employés ou plus dont au moins 75% consentiront à y participer.

Administration:

Le District Dental Society a signé une entente avec le G.H.D.I. (Group Health Dental Insurance Inc.) un plan médical à but purement lucratif de la région du New-York Métropolitain. Ce système de plus, comporte un bureau de direction de 24 membres dont 12 dentistes et 12 représentants des différents segments de la société. Enfin, il y a le Dental Advisory

Council dont les 25 membres sont d'émiments dentistes qui surveillent tout ce qui a trait au bon renom de la profession dentaire.

Fonctionnement:

Le souscripteur reçoit d'abord un examen dentaire complet de sa bouche ainsi que des radiographies. Il doit cependant payer les frais nécessaires à la réhabilitation de sa bouche jusqu'à concurrence de \$150.00. L'excédent ainsi que les soins dentaires subséquents sont gratuits si son revenu est inférieur à \$5,000. Si son revenu est supérieur à ce montant, il doit en plus payer la différence entre le tarif du G.H.D.I. et le tarif normal de son dentiste. La prime mensuelle est \$1.65 pour un individu, \$3.00 pour un couple sans enfants et \$6.00 pour le père la mère et les enfants non-mariés en dessous de 18 ans. Ils offrent aussi une seconde police à meilleur compte mais ne donnant droit qu'à 50% des bénéfices.⁽²⁵⁾ ⁽²⁶⁾ Le service dentaire se donne dans le bureau privé du dentiste qui adhère au plan, et le patient choisit le dentiste qu'il préfère pourvu, bien entendu, qu'il soit du plan.

Appréciation:

C'est un plan qui semble très onéreux pour le patient puisqu'il doit payer le premier \$150.00 pour ses soins dentaires mais il peut présenter certains avantages pour le patient qui aurait des travaux très élaborés à faire exécuter.

LE PLAN D'ASSURANCE D'ALBERTA

Avec le service de traitements dentaires anticipés d'Alberta, nous avons une nouvelle forme de plan d'assurance puisqu'il est subventionné par le gouvernement de cette province.

Objet

"Il a été institué par le ministère de la santé pour aider les vieillards, les aveugles, leurs épouses et leurs dépendants; il comprend également les femmes qui reçoivent la pension des veuves et des mères nécessiteuses ainsi que leurs enfants mineurs."⁽²⁷⁾

Administration

Elle est faite par le Bureau de Direction de l'association dentaire de l'Alberta. Ce

Bureau toutefois se réserve un droit de contrôle sur le travail fait, par l'intermédiaire d'un dentiste qui peut servir d'arbitre et dont les décisions sont sans appel.

Fonctionnement

Ce plan comporte très peu de procédures administratives. Le patient se présente chez son dentiste qui inscrit sur une formule appropriée, les traitements requis par le patient et la fait parvenir au Bureau Central pour y obtenir la permission de commencer. Le patient n'a rien à déboursier car le dentiste se fait payer par le Bureau central de l'Association qui à son tour, est soutenue par un octroi mensuel à tant par tête, du gouvernement provincial. Le bénéficiaire peut choisir librement son dentiste qui à peu d'exception près, saura lui prodiguer les traitements les plus complets possibles. Les traitements ne lui coûtent rien si ce n'est la prothèse où il a à payer la moitié des frais. Ceci a pour but d'éviter les abus des gens qui, bien qu'ayant des prothèses convenables, s'aviseraient de les changer étant donné qu'elles ne coûtent rien.

Appréciation:

C'est un plan un peu spécial puisqu'il est subventionné par le gouvernement, et qu'il s'adresse à la classe la plus dépourvue de cette province. Mais on peut le considérer comme un plan à paiements anticipés puisqu'en fait, ce sont les taxes du public qui paient pour ces services. Il diffère de l'assurance santé dans son administration qui est faite par le Bureau des dentistes de cette province.

SYSTÈME D'ASSURANCE POST-PAIEMENT

Voilà un système qui n'est pas une assurance au sens véritable mais plutôt une façon commode de payer. Nul n'ignore aujourd'hui l'importance qu'occupe l'achat à tempérament. Cette coutume est si profondément ancrée en Amérique du Nord, qu'elle est devenue un véritable slogan pour tous les marchands. C'est donc un système de paiements entré profondément dans notre façon de vivre. Le domaine des soins dentaires n'échappe pas lui non plus à cette tendance. Aux États-Unis, il y

a de nombreux systèmes post-payés en opération, notamment à Détroit et en Californie. Au Canada, plusieurs provinces en possèdent un, notamment la province de Saskatchewan. Voyons, en détail comment fonctionne ce plan.

Objet:

Mettre les soins dentaires à la portée de plus de gens, en leur permettant de se les procurer en payant par versements périodiques.

Administration:

Le patient paie une somme très modique pour les frais administratifs d'un tel plan soit: \$1.00 pour les frais généraux. \$0.30 par paiement mensuel pour les sommes moindres que \$125.00. \$0.50 par paiement mensuel pour les sommes plus grandes que \$125.00. Il fait ses paiements soit directement au dentiste soit encore au Bureau des services dentaires de Saskatchewan.

Fonctionnement:

Si, après estimé et examen des traitements à subir le patient désire fixer ses versements sur une base mensuelle, le dentiste lui fournit une formule numérotée qui comporte quelques questions sur sa banque, ses revenus etc . . . En plus de cela, il y a une formule de billets au même numéro. Ce billet indique au patient le montant total des traitements et les sommes payables chaque mois. À l'endos de cette formule un espace est réservé pour indiquer les dates des paiements à faire et des paiements effectués. Par la suite on remet au patient une carte qui lui indique les montants et les dates de ses paiements.

Appréciation:

Que faut-il penser d'un tel plan? Comme nous l'avons mentionné plus avant, il permet aux personnes qui n'ont pas les moyens actuellement, de faire traiter leurs dents et d'éviter ainsi de les négliger. Il est très peu dispendieux pour le patient et "toutes les transactions en rapport avec ce système peuvent se faire dans le bureau du dentiste et rien n'entrave les rapports normaux qui doivent exister entre le patient et son dentiste."⁽²⁸⁾

Un tel plan peut présenter certains avantages:

1—Il simplifie souvent les services professionnels parce qu'il les permet à une période moins tardive.

2—Les déboursés du patient sont moindres: les traitements que le patient doit remettre à plus tard, faute d'argent, entraînent souvent la perte des dents et des inconvénients pour son état général. De plus, tout retard apporté aux traitements qui s'imposent, augmentent les frais.

3—Un plan de ce genre peut contribuer à faire taire les critiques qui prétendent que les traitements dentaires sont coûteux.

4—Enfin, un tel plan peut augmenter le volume des soins dentaires et il permet au dentiste d'agencer son programme en regard de la production plutôt qu'en regard de ses revenus.⁽²⁹⁾

QUE FAUT-IL PENSER DE TOUS CES SYSTÈMES D'ASSURANCE

Il serait prétentieux, je pense, de vouloir porter un jugement définitif sur chacun de ces systèmes d'assurance. Aussi, nous nous contenterons d'établir par comparaisons les principes fondamentaux qui différencient les plans nationaux obligatoires et les systèmes d'assurances facultatifs ou prépayés. Les systèmes d'assurances post-payés n'entrent pas en comparaison avec les autres puisqu'en fait, ce ne sont pas de véritables assurances mais plutôt une façon commode de payer le dentiste.

1—Les plans nationaux obligatoires qui offrent les services dentaires sont, de fait, des systèmes de soins dentaires à paiements anticipés par l'Etat, où l'un de ses organismes, soit par prélèvement de taxes générales, soit par cotisations ou primes obligatoires qui, en somme, ne sont rien d'autre qu'une taxe spéciale obligatoire.⁽³⁰⁾ L'unique obligation des systèmes obligatoires est celle d'y contribuer financièrement et personne n'est obligé de se soumettre aux soins qu'ils offrent: Qui, dans un pays démocratique, oserait inclure une clause de soins obligatoires? Les systèmes facultatifs, par ailleurs, peuvent

y inclure une clause semblable, tout en respectant le libre choix de chacun, puisqu'ils sont établis sur une base volontaire.

2—Dans les systèmes obligatoires, certains assurés bénéficieront de tous les soins offerts à coût relativement bas pour la caisse commune tandis que d'autres, et c'est peut-être la majorité, préféreront attendre qu'une douleur les avertisse pour faire réhabiliter leur bouche à un coût maximum pour cette caisse. Il n'y a donc, aucune répartition équitable du coût et les bonnes volontés ont à payer la même prime que les négligeants. Par contre, dans un système facultatif, les chances d'une juste répartition sont plus grandes puisque chacun reçoit les soins pour à peu près, la valeur de sa contribution.

3—Dans les systèmes obligatoires, il se perd des sommes fabuleuses pour traiter des patients qui n'attachent aucune importance aux soins dentaires.⁽³¹⁾ Cependant, il n'en est pas ainsi dans un système facultatif. En effet, le coût d'opération est moindre car le système facultatif préconise la prévention plutôt que la réhabilitation.

4—Enfin, les systèmes obligatoires semblent favoriser les gens négligeants qu'on peut évaluer par le nombre de souffrances soulagées. Les systèmes facultatifs, bien au contraire, favorisent certainement les gens de bonne volonté qu'on peut évaluer par une baisse des maladies dentaires et le nombre d'adhérents aux soins de prévention que s'imposent volontairement les gens bien éduqués.

A la lumière de ces faits, il semble bien que les systèmes facultatifs possèdent certains avantages sur les systèmes obligatoires soit parce qu'ils mettent l'accent surtout sur les soins préventifs périodiques, soit encore parce qu'ils tendent de plus en plus, à favoriser les soins aux enfants, qui seront plus tard des adultes très bien éduqués en ce domaine.

On ne saurait trop, je pense, insister sur l'importance de l'éducation en hygiène dentaire. Cette éducation ne sera vraiment profitable que si elle fait l'objet d'une préoccupation de tous les instants.

Donc, tout programme d'assurance dentaire devrait commencer avec les groupes d'âges les plus jeunes soit 3-4-5-6- ans. Evidemment, une telle conception suppose un plan à long terme, mais c'est la seule façon logique et pratique d'aborder ce problème. D'ailleurs, les dentistes, en tenant compte de leur nombre insuffisant, sont convaincus depuis longtemps que la seule façon de régler le problème de la carie dentaire, consiste à concentrer le gros des efforts vers l'enfant. En effet, il sera beaucoup plus facile de conserver en santé la bouche d'un enfant que de tenter de corriger les déficiences de l'appareil buccal de toute la population.⁽³²⁾

La profession dentaire reste donc convaincue que l'éducation en hygiène dentaire est intimement liée au succès de tout plan d'assurance. L'expérience du passé prouve, sans l'ombre d'un doute, qu'une campagne soutenue en hygiène dentaire abaisserait à la longue le coût des traitements.

CONCLUSION

Nous ne savons pas quand nous aurons un système d'assurance dentaire, mais il semble bien que la chose soit imminente. Aussi, il faut que les dentistes fassent valoir leur droit d'être représentés dans l'administration de tout plan, quel qu'il soit, mis en fonction par le gouvernement. Il convient également, que les autorités compétentes soient bien informées de l'importance du caractère préventif que tout plan de santé dentaire doit avoir. C'est à cette seule condition, que nous pourrions vraiment jouir des bienfaits d'un plan d'assurance dentaire.

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PAGES EDITORIALES

Pourquoi n'y a-t-il pas plus de femmes-dentistes?

Il est un fait: notre pays manque de dentistes. Le nombre des dentistes en rapport avec la population du Canada s'établissait en 1946 à 1:2,633; en 1959, à 1: 3,018. Le nombre des diplômés, malgré l'augmentation des places disponibles pour des étudiants dans les facultés dentaires, grâce à l'agrandissement des locaux (Toronto, Manitoba, Alberta, Dalhousie) ne demeure pas parallèle à l'accroissement de la population.

Les candidatures d'étudiants qualifiés pour des cours de chirurgie dentaire se font aussi moins nombreuses, quoique la nouvelle génération fréquente davantage les écoles secondaires et que les facilités d'instruction soient plus à la portée de toutes les classes sociales. Les demandes d'admission aux facultés dentaires canadiennes diminuent. Le même phénomène s'observe aux Etats-Unis: en 1947, la proportion des places disponibles s'établissait à 4:1; en 1958, à 2:1⁽¹⁾

Les esprits qui se préoccupent à juste titre de l'avenir dentaire de la population tentent de trouver des solutions à ce problème. On préconise comme remèdes: 1) les *recherches*, pour essayer de diminuer la demande pour des traitements; 2) l'éducation au niveau des législateurs pour

des mesures prophylactiques (fluor): 3) l'éducation de la population pour des traitements de prévention; 4) la *formation de personnel auxiliaire* pour soulager le dentiste de certaines fonctions et le "disponibiliser" pour des tâches essentielles; 5) enfin, la *propagande de recrutement* auprès des jeunes gens, en vue de la relève et de l'augmentation du corps professionnel.

Ces moyens sont excellents. Mais a-t-on assez invité les jeunes filles à grossir les rangs de la profession dentaire?

On sait que les jeunes filles fréquentent en plus grand nombre que jamais les institutions secondaires et qu'elles s'éveillent à la poursuite de leurs études à l'université. Le complexe de dépendance à l'homme de nos mères les ont laissées: elles veulent faire leur vie; la société les accepte dans les cadres professionnels. Bien révolus sont les temps où une Lucy Blaman Hobbs, en 1859, aux Etats-Unis, devait s'adresser durant six années consécutives à une école dentaire avant d'y être acceptée; où une Rose Hébert, en 1914, à Montréal, devait se présenter devant la Législature pour se faire inscrire comme étudiante à l'Université de Montréal! Le public et la profession den-

taire bénéficieraient-ils de l'entrée de plus de femmes en dentisterie?

La proportion des dentistes en rapport avec la population, la nécessité d'augmenter les candidatures valables aux facultés dentaires et le nombre de plus en plus restreint de dentistes qui veulent traiter les enfants (prévention) portent à croire qu'une propagande devrait se faire auprès des jeunes filles.⁽²⁾

Le nombre des femmes-dentistes en Europe et en Amérique du Sud est assez éloquent:

Finlande, Russie,		
Lettonie, Lithuanie	80%	et plus des dentistes sont des femmes
Grèce	50%	
Norvège, Suède,		
France	23 à 30%	
Danemark	23 à 30%	
Amérique du Sud ..	10 à 40%	
Angleterre	7%	
Etats-Unis	1.2%	
Canada	1.5%	

On entend des objections variées contre l'exercice de la dentisterie par les femmes. Elles reposent uniquement sur la tradition, la coutume, les habitudes, surtout une ignorance que n'a pas su dissiper la profession dentaire.

La carrière de dentiste est-elle compatible avec la personnalité féminine?

Pourquoi pas? Les jours où l'extraction des dents jouait un rôle important dans les fonctions du dentiste sont passés. On s'efforce aujourd'hui de conserver les dents et l'instrumentation pour ce faire se manipule avec facilité (tours à haute vitesse). On se rend compte aujourd'hui que la femme a une résistance physique égale, sinon supérieure à celle de l'homme . . . Le corps médical et les compagnies d'assurances se demandent lequel est le sexe fort . . .⁽³⁾ Le système nerveux d'une femme est peut-être plus solide que celui de l'homme: intuition, délicatesse, dextérité, patience, soucis du détail, amour de la perfection, etc. La profession d'infirmière est-elle incompatible à une femme?

Les femmes sont appelées à donner naissance à des enfants et à en prendre soin. Qu'arrive-t-il alors à la femme-dentiste? La profession dentaire est probablement celle de toutes les professions qui concilie le mieux ses fonctions avec les responsabilités familiales, parce qu'elle peut s'exercer au foyer. L'ingénieur, l'avocate, l'architecte, la femme-médecin, la chimiste peuvent difficilement pratiquer leur métier à la maison. Les rendez-vous et les heures de travail se concilient facilement avec l'éducation des enfants; horaire moins long, quand la famille requiert la présence de la mère; plus long, quand les enfants sont à la période d'instruction, quand ils ont grandi. Tout est dans l'organisation!

Une femme-dentiste peut-elle exécuter tous les genres de traitements?

On reconnaît qu'un grand nombre de dentistes n'aiment pas ou n'ont pas d'aptitude pour traiter les enfants. Le traitement des dents d'enfants requiert plus de patience, plus de psychologie que celui des dents d'adultes. Les femmes ont plus de "doigté", quand il s'agit des enfants. Il ne serait toutefois pas nécessaire que les femmes-dentistes se consacrent uniquement à la pédodontie: toutes ne s'y sentent pas appelées. Mais il est probable que les femmes accueilleraient plus d'enfants dans leur clientèle et qu'elles se spécialiseraient plus volontiers que les hommes en pédodontie.

Tous les projets d'assurance privée et d'assurance gouvernementale mettent l'accent sur la jeune génération de patients. La prévention s'adresse d'abord à eux. Les femmes ont une place toute indiquée dans ce domaine.

Il faut exposer ces idées aux directrices d'écoles secondaires, aux orienteurs, aux conseillères de jeunes filles, aux associations de parents et d'instituteurs, aux jeunes filles elles-mêmes.

La profession dentaire, en invitant les femmes à joindre ses rangs, utilisera des ressources humaines qui n'ont pas été exploitées pour assurer son avenir et

rendre service à la société; elle hâtera l'avènement du jour où hommes et femmes indistinctement pourront faire fructifier en toute liberté leurs talents au bénéfice de la population de ce pays.

GERARD de MONTIGNY.

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Nouvelles du Corps Royal Dentaire Canadien

Conférence sur la défense civile

Le brigadier K. M. Baird, directeur général des Services dentaires, ainsi que le major J. C. Brick, membre de son personnel, ont assisté à la Conférence nationale sur les services de santé d'urgence au Collège canadien de la défense civile, à Arnprior (Ont.), du 16 au 18 novembre. Pendant la conférence, le brigadier Baird a également assisté à la 10e réunion annuelle de la Commission consultative des Services dentaires et de santé de la défense.

Conférence des directeurs des Services de santé

Le colonel H. L. Harris, de la Direction des Services dentaires, a représenté le directeur général des Services dentaires à la Conférence des directeurs des Services de santé qui s'est tenue à Camp Borden (Ont.), les 1er et 2 décembre. La conférence a surtout porté sur l'entraînement aux opérations de survie.

Le major B. J. H. Marchant prend sa retraite

Le Quartier général de l'Armée a annoncé la mise à la retraite du major B. J. H. Marchant, commandant du 1er Dépôt de matériel dentaire, à Ottawa.

Le major Marchant est né à Montréal. En octobre 1939, il s'enrôlait comme soldat dans le R.C.D.C., qu'il n'a pas quitté durant toute sa carrière. Il a reçu son brevet de sous-lieutenant en juillet 1942, a été promu lieutenant en août 1942, puis capitaine en février 1943, et enfin, major et commandant du 1er Dépôt de matériel dentaire en avril 1957. Après la guerre, il a été nommé tour à tour, quartier-maître de la 12e Compagnie 7/7 dentaire du R.C.D.C., à Halifax (N.-É.) adjudant et quartier-maître de la 27e Unité dentaire de campagne, en Allemagne, et officier du matériel à la Direction des Services dentaires, au Quartier général de l'Armée, à Ottawa.

Le major Marchant est marié et père de cinq enfants. Un de ses fils fréquente le Collège militaire royal de Saint-Jean. Lors-

qu'il prendra sa retraite, le major et madame Marchant résideront à Ottawa.

Promotion du capitaine A. W. Brusso

Le Quartier général de l'Armée a annoncé l'avancement du capitaine A. W. Brusso au grade de major et sa nomination au poste de commandant du 1er Dépôt de matériel dentaire, à compter du 1er janvier 1960.

Le major Brusso est né à Didsbury (Alberta). Il s'est enrôlé dans le R.C.D.C. comme soldat en janvier 1940. Il a reçu son brevet de lieutenant-quartier-maître en décembre 1944, et sa promotion au grade de capitaine en juillet 1945. Après avoir servi au Canada et au Royaume-Uni au cours de la seconde guerre mondiale, il a été nommé successivement quartier-maître de la 13e Compagnie du R.C.D.C. à Trenton (Ont.), officier du matériel à la Direction des Services dentaires, au Quartier général de l'Armée, à Ottawa, et commandant en second du 1er Dépôt de matériel dentaire, à Ottawa.

Le major Brusso est marié et père de deux enfants.

Cours

Le major L. R. Pierce, d'Aylmer (Ont.) a suivi un cours de brève durée en chirurgie buccale, à l'Université de Michigan, du 30 novembre au 11 décembre 1959.

Promotion du capitaine Craig

Le Quartier général de l'Armée a annoncé la promotion du capitaine J. L. Craig au grade de major, à compter du 2 octobre 1959.

Le major Craig est né à Bowmanville (Ont.). Il a obtenu les grades de B.Sc. et de D.D.S. (1946) à l'Université de Toronto. Après s'être enrôlé dans le R.C.D.C. en 1948, il a servi en qualité d'officier dentiste dans la 13e Compagnie dentaire, en Ontario, et dans la 11e Compagnie dentaire de la Région militaire de l'Ouest jusqu'à sa nomination à son poste actuel d'instructeur à l'École du R.C.D.C., en juin 1956. En 1958, il a suivi des cours post-universitaires sur les maladies périodontales, spécialité qu'il enseigne à l'École du R.C.D.C.

Congrès de l'Association dentaire canadienne à Ottawa, les 25, 26, 27, 28 septembre



Canal Rideau

Programme horaire

Dimanche, le 25 septembre

- 9.30 h. a.m.—Inscription au Château Laurier
 - Assemblée conjointe de la Société Canadienne de Chirurgie buccale et de l'Académie Canadienne de Périodontologie.
- 10.30 h. a.m.—Assemblée de la Section d'Orthodontie de l'A.C.D. (tous les membres de l'A.D.C. sont invités)
- 8.15 h. p.m.—Réception pour les congressistes à la Galerie Nationale du Canada

Lundi, le 26 septembre

- 9.00 h. a.m.—Ouverture de l'exposition commerciale
- 9.30 h. a.m.—Ouverture officielle du Congrès
- 10.00 h. a.m.—Conférence scientifique
- 12.30 h. p.m.—Déjeuner de l'Association dentaire canadienne
- 2.30 h. p.m.—Conférence scientifique
- 3.30 h. p.m.—Conférence du Memorial Grieve
- 8.30 h. p.m.—Soirée du bon vieux temps à Bytown.

Mardi, le 27 septembre

- 9.00 h. a.m.—Conférence scientifique
- 10.30 h. a.m.—Conférence scientifique
- 2.00 h. p.m.—Exposition et démonstrations scientifiques
- 6.00 h. p.m.—Réunions de classes

Mercredi, le 28 septembre

- 9.00 h. a.m.—Conférence scientifique
- 10.30 h. a.m.—Colloque sur: "Les effectifs de la profession dentaire canadienne"
- 12.15 h. p.m.—Déjeuner de l'Association Dentaire de l'Est de l'Ontario
conférencier: Hon. John G. Diefenbaker
- 2.30 h. p.m.—Conférence
- 6.00 h. p.m.—Cocktail de l'Association Dentaire de l'Est de l'Ontario
- 7.00 h. p.m.—Dîner du Président de l'Association dentaire canadienne

TOUTES LES CONFERENCES SONT TRADUITES SIMULTANEMENT

Volume 26
Number 7
Toronto
July 1960

The Canadian Dental Association

JOURNAL

When Malocclusion Concerns the Public*

ROSS O. FISK, D.D.S., M.S., Toronto, Ontario

The incidence of various manifestations of malocclusion occurring in one thousand orthodontic patients.

With the ultimate inclusion of orthodontic care for large numbers of children in public dental health insurance schemes, it is essential to determine what manifestations of malocclusion are of concern to

the public. Comprehensive surveys^(5,16) of the incidence of malocclusion in cross-sections of the population estimate that a remarkably high percentage of children are affected to some degree. Indeed, so large is it that we must conclude that the available dental manpower is insufficient to provide adequate orthodontic care for all these problems. If it could be proved that the types of cases receiving treatment occur infrequently in the population, the ratio of potential patient to dentist would be reduced. The family dentist or specialist treats the types of orthodontic prob-

*Presented before the annual reunion meeting of the Orthodontic Alumni—University of Michigan, February 1960.

lems the public considers needful of treatment. A survey of these cases would provide basic information, which could be used as a guide in determining objective criteria for patient selection in public health programmes.

During the past fifty years, parents in increasing numbers have been seeking orthodontic services for their children. As a result, the demand for the correction of malocclusion has established orthodontics as a major branch of conservative dentistry. Abraham Lincoln has been quoted⁽¹⁾ "Public opinion is everything; with public opinion nothing can fail, without it nothing can succeed." This concept is especially applicable when consideration is given to investing public funds in orthodontic health services. It is essential for the profession to know in detail the present demand for orthodontic treatment, for only then can the difference between the need and demand for treatment be assessed. In making such an assessment it should be stressed, however, that at present the treatment of malocclusion consists mainly of palliative or corrective procedures instituted during the terminal stages of development. From a public health viewpoint, prevention should be the ultimate goal. Before this objective can be realized a more detailed knowledge of the nature, incidence and etiology of malocclusion must be obtained.

What is malocclusion? At the workshop in orthodontics held in Ann Arbor during June 1958, malocclusion was defined "as that condition in which dental structures are not in acceptable equilibrium with each other or with the facial structures and/or the cranium, thus interfering with or posing a potential threat to normal tissue development and maintenance, effective function or a psychological behavior problem⁽¹³⁾." It was concluded that "the term malocclusion while a semantic one, is not as yet clearly defined especially for epidemiological studies⁽¹⁴⁾." As yet, no definition includes terms that describe objectively the various types of malocclusion. Usually very little detail is given as

to the specific attributes or manifestations that one must recognize in order to define the term precisely. As a result, there are various standards available to which a particular occlusion may be compared when assessing degree of abnormality (Figure 1). For the practitioner there is

IDEAL $\longleftrightarrow$ NORMAL $\longleftrightarrow$ MALOCCLUSION

FIGURE 1

Standard describing occlusion

usually one standard for comparison, the ideal as described by Angle⁽²⁾. While the ideal is the primary treatment objective the limitations imposed by nature often make this objective unattainable in all cases. A second standard is the normal⁽⁸⁾ or average occlusion that is estimated in groups of the population. The ideal and the broader concept of the normal are standards recognized by the dental profession.

To date, very little has been reported as to when the public considers malocclusion of such severity as to warrant correction. Such factors as socio-economics, cultural values, racial characteristics, and advice of the family dentist are profound influences on the individual or his parents in motivating him to request orthodontic services. It is imperative to know if the incidence of the types of malocclusion as reported in random cross-sections of the population differs from that in patients requesting orthodontic treatment. This knowledge would be an invaluable aid to the general practitioner, to the orthodontist, and especially to the public health worker who may wish to assess practically the immediate orthodontic needs of a particular individual or community. Furthermore, an exact knowledge of what the public considers to be malocclusion will help in emphasizing or amplifying certain aspects of orthodontic education at both the graduate and undergraduate levels. As an initial step in surveying the public's understanding, a method was formulated for examining and measuring certain manifestations found in patients seeking orthodontic treatment.

METHOD

The initial dental casts of one thousand orthodontic cases were examined according to the various occlusal and dental criteria shown in Figure 2. The sample comprises individuals from one practice who are from homes of similar socio-economic status located in three separate districts in metropolitan Toronto.

DENTAL AGE (Figures 3 and 4)

Dental age was used as a basis for grouping the cases according to age of

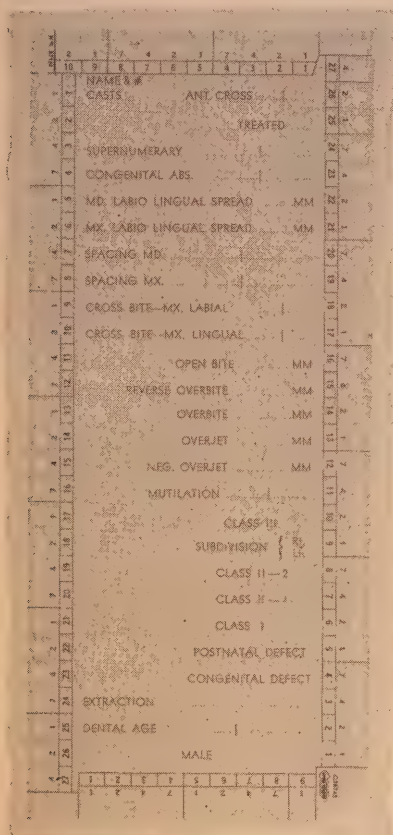


FIGURE 2

Reproduction of card on which observations
were recorded

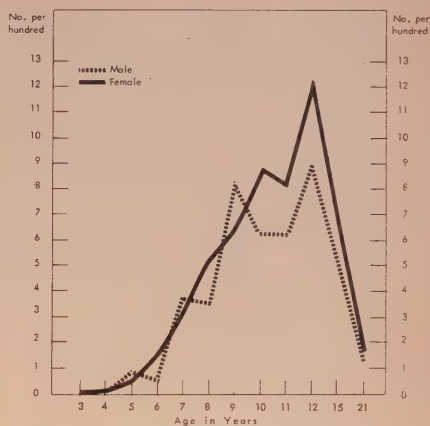


FIGURE 3

Distribution of sample according to age and sex as shown in first cast

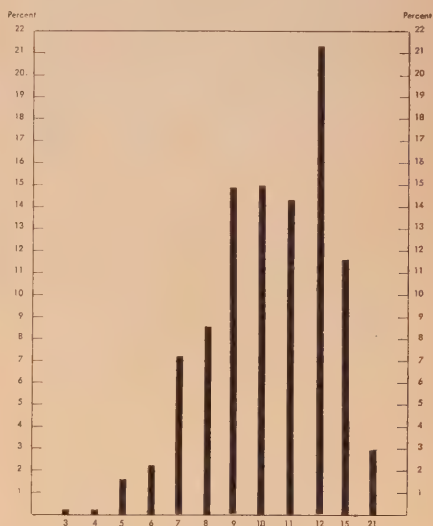


FIGURE 4

Dental Age

Distribution of current and early cases according to dental age of first record model

initial request for orthodontic services. For ease of comparison, the following dental ages were grouped according to eruptive periods as follows:

Eruptive Period	Dental Age (in years)
Deciduous dentition up to and including eruption of 6-year molars	3,4,5,6
Period of Incisor Eruption ..	7,8,9
Period of Bicuspid Eruption ..	10,11
Period of Second Molar Eruption	12,15
Adult Dentition-after Third Molar Eruption	21

THREE PLANES OF SPACE

Three planes of space were used as a basis for examining the casts in occlusion: antero-posterior, medio-lateral (transverse), and cephalo-caudal (vertical).

Antero-posterior relationships were classified according to molar relationships and incisor relationships as follows: Angle molar classification, anterior crossbite, overjet, and negative overjet. Transverse relationships were recorded in terms of posterior crossbites as follows: maxillary teeth biting buccally, mandibular teeth biting lingually. Vertical relationships were recorded in millimetres according to the various degrees of open bite to deep overbite. Reverse overbite was also recorded.

ADDITIONAL MEASUREMENTS

Added to the above measurements were the following: a measurement of irregularity of the teeth termed labio-lingual spread⁽⁶⁾, spacing, therapeutic extractions for orthodontic reasons, postnatal defects (including twenty-two separate factors), congenital defects, mutilation, congenital absence, and supernumerary teeth. The male and female sample was kept separate for statistical testing.

FINDINGS

The attributes of malocclusion were divided into two groups: those that might be associated with localized defects in otherwise normal occlusions, and those that might be associated with generalized or possibly structural abnormalities. The following dental observations are included under the term local defects: Class I, labiolingual spread, postnatal defects, supernumerary teeth, mutilation, Class II, division 2, and congenital absence. Generalized defects are those associated with dental abnormalities that could be the result of dento-skeletal and/or dental muscular imbalance, tooth size-jaw size disharmony, antero-posterior dysplasia, medio-lateral contraction and distraction and vertical attraction or abstraction. Specific generalized defects included for study were Class III molar occlusion, Class II division 1 molar occlusion, anterior crossbite, maxillary and mandibular spacing, posterior crossbites, need for therapeutic extraction and closed and open bite. The tables and charts shown must be analysed in light of motivation trends for seeking orthodontic services and of possible growth trends; a task made more difficult by the mutual camouflaging of these two trends.

In a consideration of the cosmetic aspects of the correction of malocclusion, it seems logical to anticipate a greater number of females seeking orthodontic treatment than males. Such is the finding. In this study the number of females exceed the males by thirteen per cent. A number of the dental manifestations of malocclusion also showed a statistically significant difference in frequency according to sex. In general, females have a higher incidence of localized defects and males a higher incidence of defects which may be associated with generalized abnormalities.

CLASS I MALOCCLUSION (Figure 5)

From the dental ages of three to twenty-one years there is a decrease, percentage-wise, in the number of Class I males re-

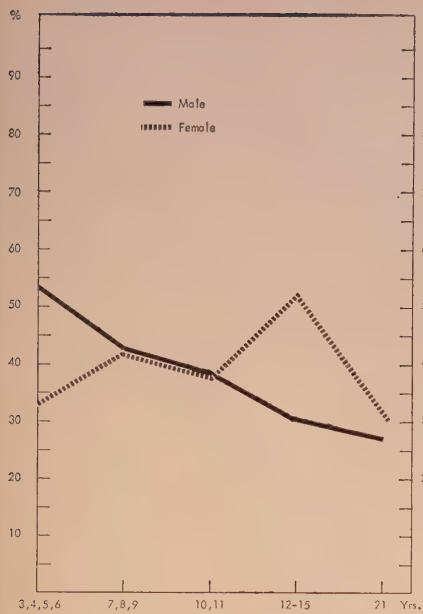


FIGURE 5

Incidence of class I malocclusion

questing orthodontic consultation. Similarly, there seems to be a general decrease from three to twenty-one years in the number of females with Class I malocclusion except at the dental age of twelve to fifteen years when there is a significant increase in the number of females coming for treatment of these problems. A large proportion of the females at this age level have many localized dental problems within otherwise normal occlusions: e.g. impacted canines, spacing between central incisor teeth, congenitally missing teeth, and single teeth in anterior crossbite. Possibly these conditions were not diagnosed early. In addition, there may have been a request by the female patient herself for treatment of these relatively minor problems at this self-conscious age.

Possibly the parents carried out a wait and see policy for females with Class I problems and this could account for the large number of these cases coming for treatment at these ages. Some of these conditions possibly would not be of such concern to the males.

In patients from the dental age of seven to nine years, and ten and eleven years, there is a high percentage of cases with spacing of the maxillary teeth, which parallels the trend of Class I malocclusion. Frequency of treatment of Class I malocclusion appears to be high when spacing is most prevalent, specifically during the period of incisor eruption (7 years to 9 years). Class I cases with irregular maxillary teeth (labio-lingual spread) showed an inverse relationship with spacing of the maxillary teeth when compared on a time or dental age basis. This is an unexpected finding. The percentage of irregular teeth increased with age; yet the percentage of Class I cases generally decreased. Class I cases seem to come early for treatment, perhaps because of the normal spacing that occurs during the changeover from the deciduous anteriors to the permanent anteriors. As the spaces close, there is a decrease in the percentage of Class I cases seeking treatment.

LABIO-LINGUAL SPREAD (Figures 6 and 7)

There is a significantly greater number of females with irregular teeth than males. Although a spread in the mandibular arch of three millimetres or less was observed in a greater number of females (4 per cent), there was no difference between the male and female sample when the mandibular dentition was examined for labio-lingual spread over three millimeters. An interesting and unexpected finding was the evidence that an irregularity of maxillary incisors greater than three millimeters was present in 54.8 per cent of the males but in only 43.3 per

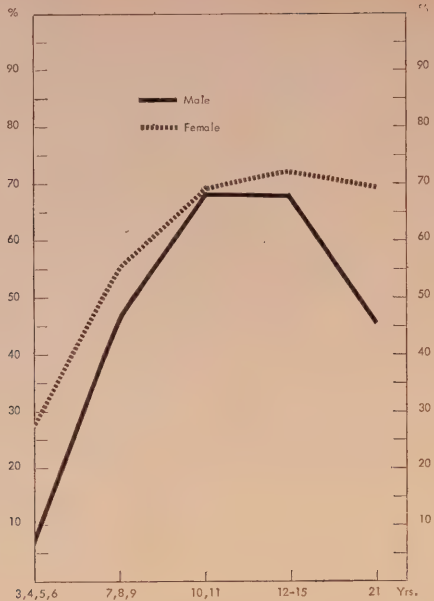


FIGURE 6
Incidence of maxillary labio-lingual spread (irregular teeth)



FIGURE 7
Incidence of mandibular labio-lingual spread (irregular teeth)



FIGURE 8
Incidence of congenital absence of teeth

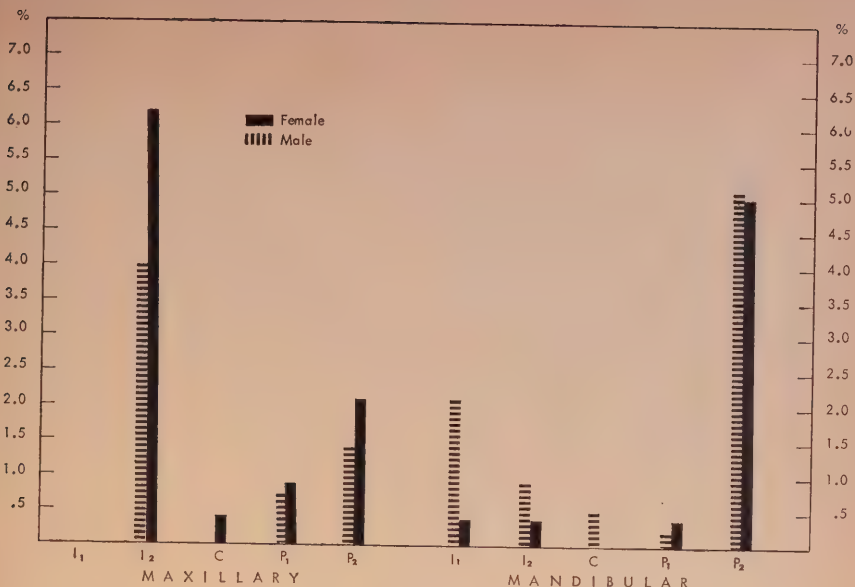


FIGURE 9
Distribution expressed in percent of congenital
absence of teeth

cent of the females. It would appear that there are 12.5% more males than females with markedly irregular maxillary teeth.

This finding indicates that localized or minor irregularities, particularly in the maxillary arch, may be of greater concern to the female patient than to the male, the latter generally having more tooth irregularity before treatment is sought.

CONGENITALLY ABSENT TEETH (Figures 8 and 9)

Examination of the bicuspid area cannot be undertaken accurately as there are many deciduous second molars in situ and it is not possible to assess all missing teeth without reference to radiographs. The present study, utilizing dental models only, showed 151 missing teeth. Figure 9 expressing the individual teeth in per cent is calculated on the basis of 151 teeth = 100%. The incidence chart (Figure 8) shows the percentage of individuals that have congenitally absent teeth. In total, six per cent of the casts examined showed congenital absence of one or more teeth.

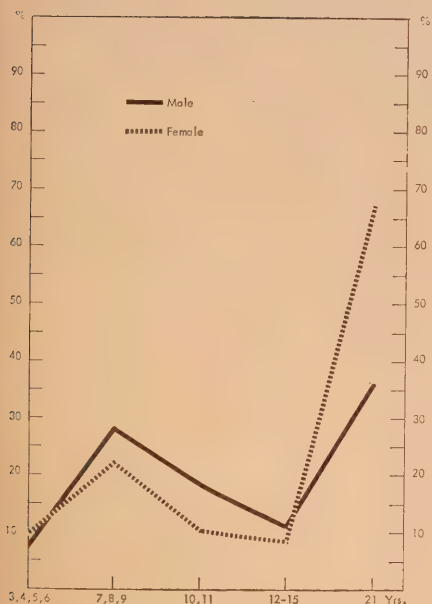


FIGURE 10

Incidence of cases showing effects of mutilation

MUTILATION (Figure 10)

Mutilation is associated with the length of time the various teeth have erupted.

There are more mutilations in the seven to nine years old group just prior to shedding of the deciduous molars. There are a greater number of males from dental age seven to fifteen years and a significantly greater number of females at the dental age of twenty-one years with mutilations of the dental arches. In general, it would seem that the females prior to twenty-one years of age are receiving better dental care evidenced by a lower incidence of mutilation. Nineteen per cent of the sample shows such mutilation as loss of deciduous or permanent teeth and/or space loss due to observable caries in the dental model. In summary, it is shown that 19.1 per cent of the sample evidences mutilation. Males have a higher incidence of mutilation than females, twenty-three per cent for the former and seventeen per cent for the latter.

CLASS II DIVISION 2 MALOCCLUSION
(Figure 11)

There is a suggestive increase in numbers of Class II division 2 cases seeking

treatment after the central and lateral incisor teeth erupt. There may have been a waiting policy either on the part of the patient or the orthodontist, as the majority of initial models occur after nine years of age. Although a significantly greater number of females than males in this category receive treatment, it is a relatively infrequent problem concerning only eleven per cent of all cases. An examination of the average overjet in the seven to nine years old group in this class is to be one millimeter greater for males than for females (Table III).

POSTNATAL DEFECTS (Figure 12)

Postnatal defects are arrayed (Table 1) to show the essentially environmental conditions that were observed and also to emphasize the relative unconcern for these factors by the public as concluded from the very low prevalence of individual factors.

In the twenty-two separate factors listed under postnatal defects, the highest percentage of any one factor was two

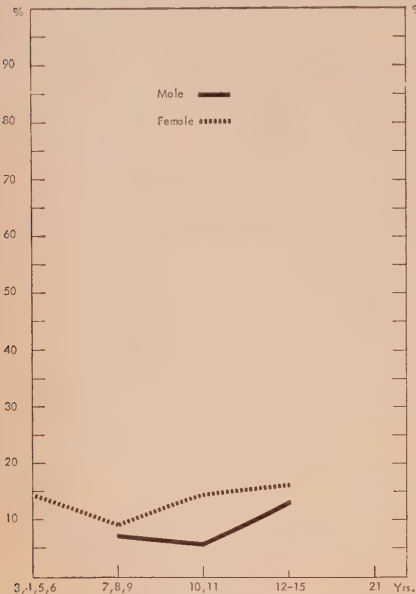


FIGURE 11

Incidence of class II division 2 malocclusion

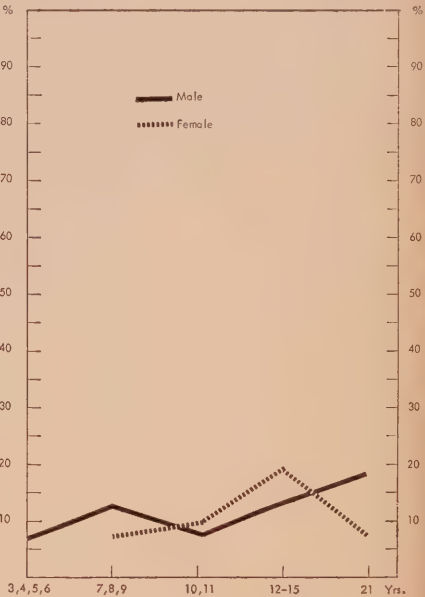


FIGURE 12

Incidence of post natal defects

per cent of the total. Because dental casts were used to describe these conditions, one must be guarded in the interpretation of the findings, especially keeping in mind dental age when interpreting the results of 5T5 impaction. This condition would be observed usually in patients of twelve, fifteen, and twenty-one years of age. Although the rate is expressed out of one thousand, it is obvious that it would occur in the 369 individuals of a dental age from twelve to twenty-one years. A comment is warranted for prolonged retention. The low prevalence of prolonged retention is the result of not relating chronologic and dental age. Similarly, tooth size disharmony is based on gross inspection methods and was not subjected to exacting measuring techniques such as described by Bolton⁽³⁾. A detailed examination of each of these factors should be undertaken using x-rays

and casts to determine more precisely the incidence of postnatal defects.

THERAPEUTIC EXTRACTIONS (Figure 13)

Extraction of teeth is considered necessary as the result of tooth-size: jaw size disharmony and is included in the generalized defects group. The percentage of extraction of teeth for orthodontic treatment in this sample is low (twenty per cent). There is an apparent increase in the number of extractions required with dental age; possibly some cases were observed to permit buccal teeth to erupt before extraction. A significantly greater number of teeth were extracted in the female group — a fact which may be accounted for, in part, by the greater number of females with Class I malocclusion. At twenty-one years there is a decrease in the number of females in the sample requiring extraction. Forty-five per cent of the females at this age level did not proceed with treatment after consultation.

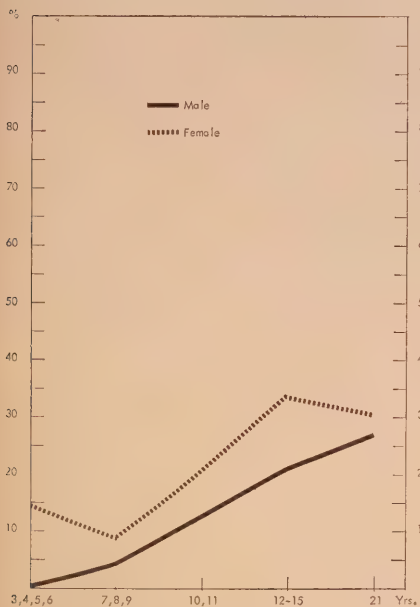


FIGURE 13

Incidence of cases with therapeutic extractions of teeth as part of treatment plan

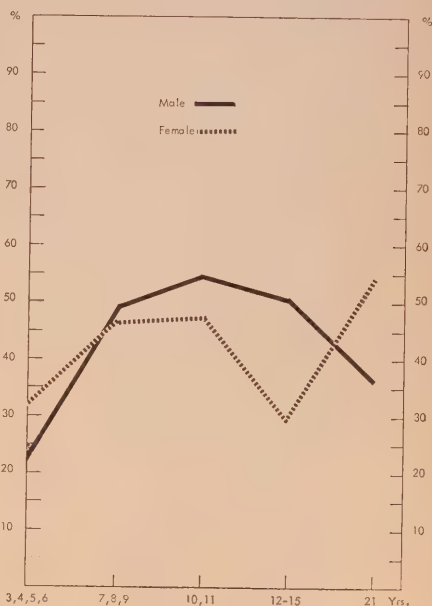


FIGURE 14

Incidence of class II division 1 malocclusion

CLASS II DIVISION 1 MALOCCLUSION (Figure 14)

There does not appear to be any increase or decrease in the percentage of Class II division 1 cases coming for treatment between seven and fifteen years, except for a marked decrease in the percentage of females at dental ages twelve and fifteen years. The significant difference between the males and females at these ages is difficult to explain; possibly the females come earlier for treatment of such dentofacial disfigurements. The reversal of percentages for Class I and Class II cases in the female may be due to a waiting policy for the former and the commencement of treatment at an earlier age for the latter.

Over-all, however, 10.7 per cent more males than females are treated for this problem. A study reported by Humphreys and Leighton⁽⁹⁾ showed that there were four per cent more males with Class II division 1 malocclusion between the ages of two and five and one-half years. Munblatt⁽¹¹⁾ showed 2.2 per cent more males

than females in this class between the ages of six and fourteen years. These figures indicate that possibly the male is more predisposed to abnormalities of antero-posterior dyspasia than the female. It is interesting to note that over one-half of the females at twenty-one years of age applied for treatment to Class II division 1 problems. From the high incidence of mutilation in this group it was concluded that they had previously been neglected orthodontically and dentally.

In summary, it is shown that Class II division 1 malocclusion is the most frequent treatment problem in this orthodontic practice. There is a significantly higher number of male patients in this category treated than females.

CLASS III MALOCCLUSION (Figure 15)

A low percentage of Class III cases between eight and twelve years of age is shown in Figure 15. The early cases designated as Class III may in reality be of the pseudo-Class III type. At an early age, the structural manifestation may not be as apparent as in the later age groups,

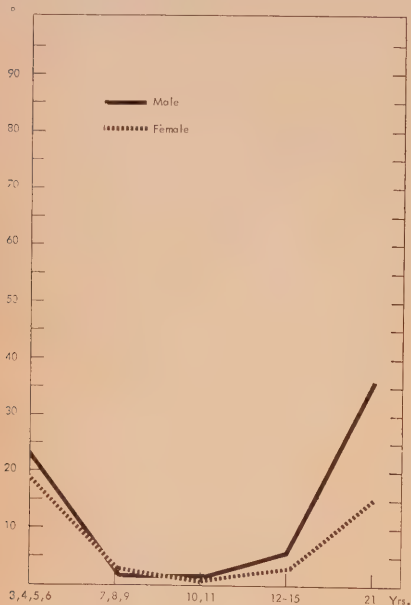


FIGURE 15

Incidence of class III molar malocclusion

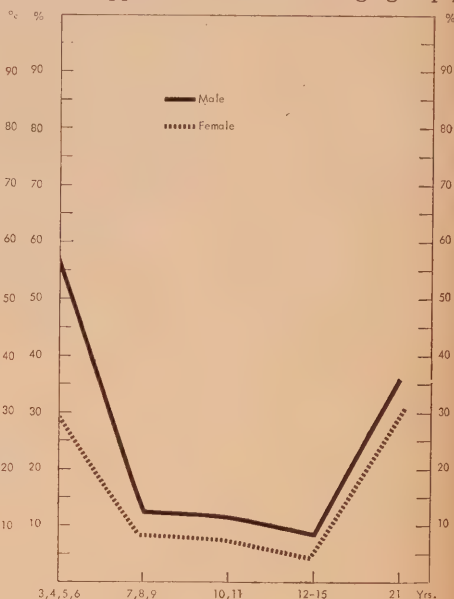


FIGURE 16

Incidence of anterior crossbite

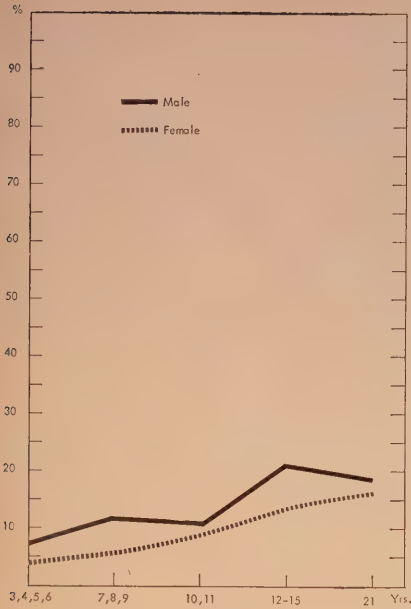


FIGURE 17

Incidence of posterior crossbite — maxillary teeth buccal

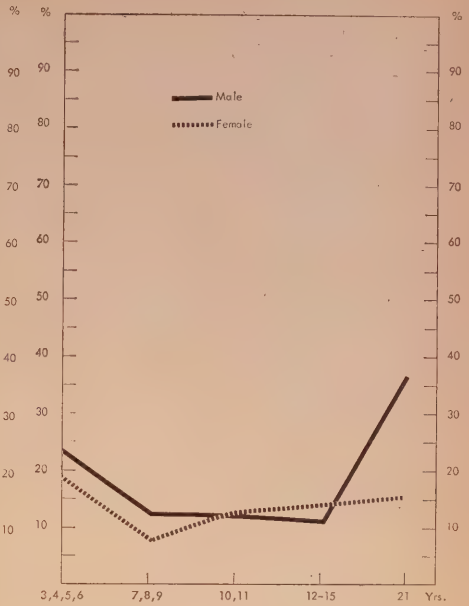


FIGURE 18

Incidence of posterior crossbite — maxillary teeth lingual

particularly in the twenty-one year old male. There is a significantly greater number of adult males than females requesting treatment for Class III problems.

ANTERIOR CROSSBITE (Figure 16)

As only 10.2 per cent of the sample showed anterior crossbites, it was concluded that this is a relatively infrequent treatment problem in the orthodontic office. No doubt the general dentist is well equipped to diagnose and treat anterior crossbites in their incipency. Anterior crossbites are associated with early pseudo-Class III tendencies at ages three to six years and the Class III tendency particularly in the male at twenty-one years of age.

POSTERIOR CROSSBITE

Maxillary Teeth Buccal (Figure 17)

Posterior crossbites with the maxillary teeth biting buccally were exhibited by 11.5 per cent of the patients examined. The trend of posterior crossbites to increase in numbers with age is most likely associated with the eruption of the bicuspids. There is a high frequency of upper first bicuspids in buccal crossbite, associated with a Class II division 1 malocclusion tendency. That there is a significantly greater number of males with buccal crossbite does not seem to be a surprising finding when we know that there are more males with Class II divi-

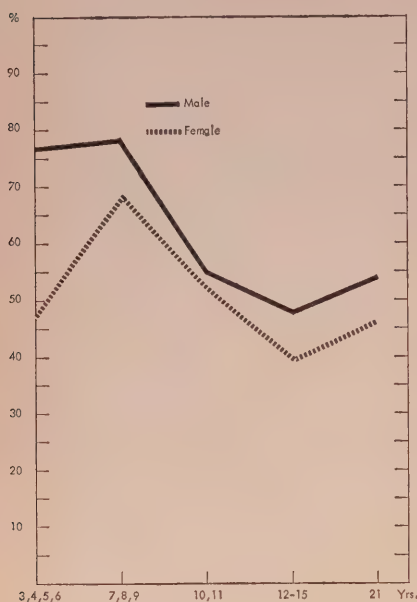


FIGURE 19

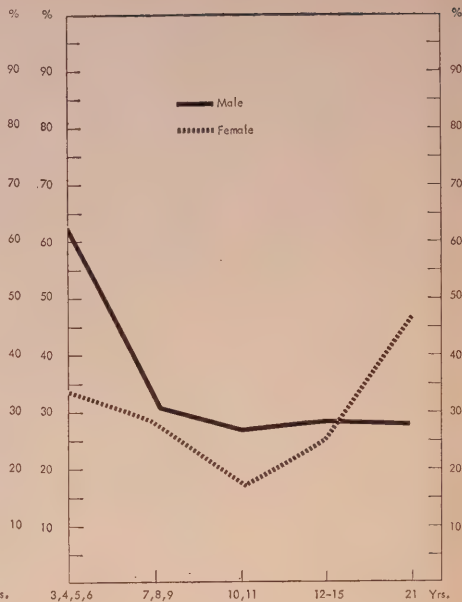
Incidence of maxillary spacing

FIGURE 20

Incidence of mandibular spacing

sion 1 malocclusion in the sample. Naturally there is less difference between male and female at twenty-one years of age where fifty-five per cent of the females are seeking treatment for Class II division 1 problems.

POSTERIOR CROSSBITE

Maxillary Teeth Lingual (Figure 18)

The increased number of posterior crossbite cases of males at age twenty-one years in which the maxillary teeth are displaced lingually is probably associated with the higher incidence of Class III molar occlusion. Maxillary posterior teeth biting lingually to the mandibular

teeth were noted in 12.2 per cent of the sample. In general, there are more crossbites with maxillary teeth biting lingually in the female sample—an incidence probably associated with the higher frequency of low overjet cases.

MAXILLARY & MANDIBULAR SPACING (Figures 19, 20)

As expected, when dental age increases, there is a decrease in the numbers showing spacing. The significantly greater number of males with spacing may be associated with a greater degree of antero-posterior dysplasia in the Class II division 1 cases. Males may be more predisposed to greater maxillary arch length than females in this class. A study of overjet

DEFECTS	FREQUENCY IN %
1. Fractured anterior teeth	2.7
2. Impaction $\frac{3}{3}$	2.3
3. Open bite of posterior deciduous teeth $\frac{ed\ de}{ed\ de}$	1.5
4. Peg laterals	1.4
5. $\frac{3}{3}$ Impaction	.9
6. $\frac{6}{6}$ Ectopic eruption	.8
7. $\frac{1}{1}$ Impaction	.4
8. Hypoplastic enamel	.3
9. $\frac{2}{2}$ Ectopic eruption	.2
10. Gemination of $\frac{21}{12}$	.1
11. Abnormal wear due to Bruxism	.1
12. Cancer destruction of mandibular bone	.1
13. Prolonged Retention of Teeth	.1
14. $\frac{3}{3}$ Impaction	.1
15. Hyperplastic gingivitis	.1
16. Gingival tissue and bone loss	.2
17. Trauma resulting in anterior $\frac{1}{1}$ tooth loss	.1
18. Trauma resulting in displacement of maxillary anterior	.2
19. Trauma resulting in skeletal displacement	.1
20. Abnormally large teeth	.1
21. Cyst formation resulting in loss of $\frac{2}{2}$	.1
22. Gross tooth size disharmony	.1
Total postnatal defects male	11.3%
Total postnatal defects female	11.5%

TABLE I

Incidence of various postnatal defects

Frequency of different Degrees of Incisor Overjet according to Molar Occlusion (Angle) by Age Group and Sex.

A. 7, 8, 9 YEAR (MEANS)

	MALE	FEMALE	TOTAL
CLASS I	3.4	3.9	3.7
CLASS II-1	7.4	7.6	7.5
CLASS II-2	3.9	3.0	3.4
CLASS III	-1.0	-1.3	-1.2
GRAND TOTAL	5.4	5.4	5.4

B. 11, 12, 15 YEAR (MEANS)

	MALE	FEMALE	TOTAL
CLASS I	4.1	3.9	4.0
CLASS II-1	8.0	7.9	7.9
CLASS II-2	4.0	3.6	3.8
CLASS III	-2.3	-0.8	-1.5
GRAND TOTAL	5.6	5.1	5.3

TABLE III

INCISOR OVER JET

INVESTIGATOR	YEAR	NUMBER IN SAMPLE	AGE	MEAN $\pm$ DEVIATION
Lundström and Lyzell	1953	39	Juvenile & Adult 13 yrs.	2.5 $\pm$ 2.1
Lundström	1953	69	13 yrs.	3.5 $\pm$ 1.5
Lundström	1953	138	13 yrs.	3.0 $\pm$ 1.6
Lundström	1953	69	13 yrs.	3.1 $\pm$ 1.6
Björk	1953	322	12 yrs.	4.1 $\pm$ 2.2
Dockrell, Clinch	1954	130	12 yrs.	3.0 $\pm$
Present Study	1960	1000	3-21 yrs.	5.15 $\pm$ 2.9

INCISOR OVER BITE

INVESTIGATOR	YEAR	NUMBER IN SAMPLE	AGE	MEAN $\pm$ DEVIATION
Barrow and White	1952	51	11 yrs.	3.5 $\pm$
Lundström and Lyzell	1953	39	Juvenile & Adult 13 yrs.	2.8 $\pm$ 1.6
Lundström	1953	69	13 yrs.	3.7 $\pm$ 1.6
Lundström	1953	138	13 yrs.	3.0 $\pm$ 1.8
Lundström	1953	69	13 yrs.	3.3 $\pm$ 1.6
Björk	1953	322	12 yrs.	2.6 $\pm$ 1.8
Dockrell, Clinch	1954	129	12 yrs.	4.3 $\pm$
Present Study	1960	1000	3-21 yrs.	4.8 $\pm$ 2.1

Adapted from Dockrell 1958

TABLE II

Average overjet and overbite found in present study compared with other studies

SURVEY	AUTHOR & YEAR	NUMBER	Classification of Malocclusion According to Molar Occlusion (Angle)			
			AGES	I	II	III
1	Angle (1899)	—	—	74.2	21.6	4.2
2.	Criavaro (1913)	1000	3-6	76.8	14.3	8.9
3	Thielemann (1923)	739	3-6	86.3	8.8	4.9
4	Karkhaus (1927)	643	6	76.8	16.7	6.5
5	Stallard (1932)	1200	5-6	78.0	13.9	8.1
6	Stallard (1932)	600	13-14	67.1	30.4	2.5
6	Taylor (1935)	602	0-15	76.4	19.8	3.8
7	Goldstein (1936)	302	2-11	74.8	24.9	.3
8	Telle (1951)	2349	7-8	51.3	36.3	12.4
9	Krogman (1951)	586	6 1/2-12 1/2	51.8	45.1	3.1
10	Barrow & White (1952)	51	5	55.0	30.0	15.0
	Barrow & White (1952)	51	16	44.8	41.4	13.8
11	Jackson (1952)	1070	8-17	77.1	19.6	3.3
12	Friedlander (1953)	398	Adult	65.3	29.7	5.0
13	Andrik (1954)	5022	6-15	77.3	19.8	2.9
14	Harrel (1955)	3203	5 yrs	72.2	21.8	6.0
15	Savara (1955)	2774	14-18	63.5	24.6	11.9
16	Newman (1956)	3355	6-14	73.6	25.4	1.0
17	Gardiner (1956)	1000	5-15	88.5	10.9	.5
18	Benson (1958)	82	5-13	56.0	44.0	—
19	Burlington (1958)	1200	3-12	63.1	33.4	3.1
20	Present Study (1960)	1000	3-21	40.5	55.8	3.7

Adopted from Dockrell and Seipel

TABLE IV

Incidence of angle classes of malocclusion in present study compared with other studies

(Table II) in part supports this contention. The slight increase of maxillary spacing at twenty-one years of age is probably associated with the high percentage of mutilations found at this age level.

ANTERIOR OPENBITE (Figure 21)

Openbite occurs infrequently in the malocclusion sample. From three to six years and also at twenty-one years of age, males have a higher percentage of openbites than females. This may be associated with habits in the early age groups and with the Class III malocclusion in the later age group.

OVERBITE AND OVERJET (Table II)

Closed bite or overbite was not studied intensively except to record in millimeters the various amounts of overbite for each case. For females at eleven, twelve, and fifteen years, overbite was plotted according to the amount of overjet present for each individual. There was no correlation found to exist between overjet and overbite. The means for overjet according to type of malocclusion are shown in Table III.

SUMMARY AND CONCLUSIONS

In a preliminary survey of one thousand casts of individuals requesting orthodontic treatment, the frequency of various manifestations of malocclusion was tabulated according to dental age and sex. The most frequently occurring attributes were irregular maxillary and mandibular anterior teeth, spacing of the maxillary teeth and Class II occlusion (Figure 22). The dental age range of the majority of cases seeking treatment was from seven to fifteen years with the greatest number occurring at twelve years. There were a greater number of females than males seeking treatment after the dental age of ten years.

The frequency of malocclusion according to the Angle classification for this sample was compared to the frequency of malocclusion reported in studies of random samples by other investigators (Table IV). Although in the studies of random populations only twenty-six per cent of malocclusions are of the Class II and Class III type, these major deformities comprise sixty per cent of all treatment anomalies found in this study. Therefore this study indicates that the most common types of cases seeking orthodontic treatment occur relatively infrequently in random populations. Such a divergence between the need for orthodontic treatment and its demand—the professional and public concept of malocclusion—is of great significance in

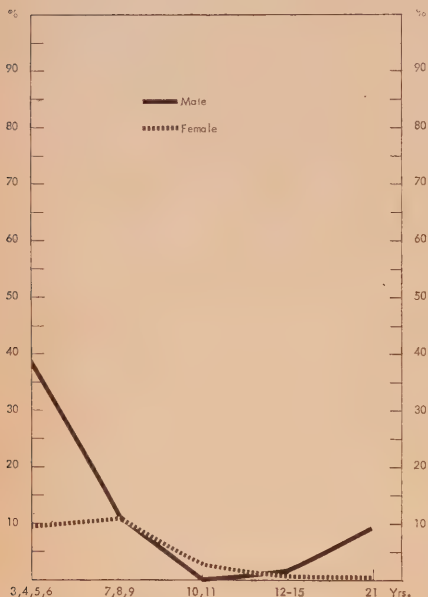


FIGURE 21

Incidence of anterior openbite

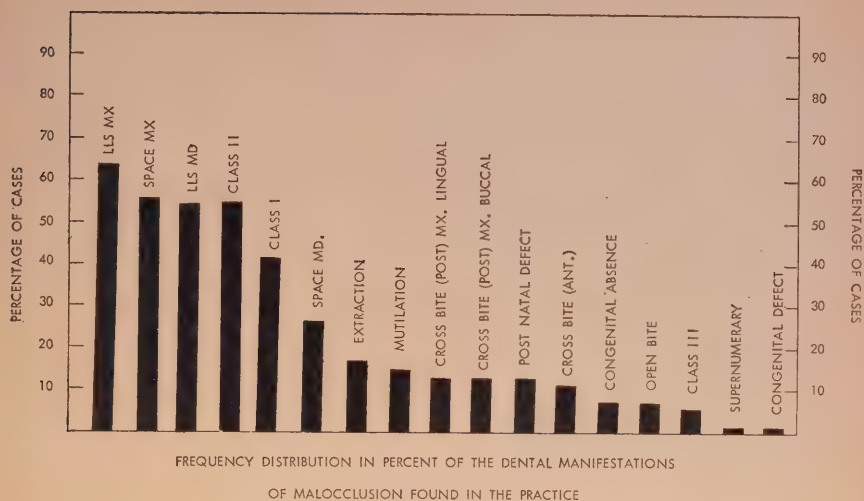


FIGURE 22

the establishment of criteria for treatment priority in public health orthodontic programmes. The professional criteria of treatment need will always be higher than that of the public. In the initial stages of a public health programme nothing less comprehensive than the present standard of demand for orthodontic treatment by the public would be accepted. After the initial inception it is essential to provide for an expanded programme which would plan through education for a reconciliation of the public standards with those of the profession. Before such a goal can be attained it is necessary to formulate objective definitions of malocclusion, to quantitate the prevalence of the various manifestations of malocclusion in the population and to evaluate efficient means for its correction and prevention.

ACKNOWLEDGEMENTS

I wish to acknowledge my indebtedness to those who assisted in this project. I wish to especially thank Dr. R. M.

Grainger, Associate Professor of Dentistry Division of Dental Research, University of Toronto for his continuous help and advice concerning the statistical tests and organization of the tables and charts for presentation. In addition I wish to express gratitude to Dean R. G. Ellis, Faculty of Dentistry, University of Toronto for having the foresight to preserve for study treatment records of cases from the practice of my father Dr. G. V. Fisk; to Dr. E. Harvold, Professor of Dentistry, Head of Department of Orthodontics, University of Toronto whose encouragement in the use of this material initiated the present study; and Dr. R. E. Moyer, Professor of Dentistry, Head of Department of Orthodontics, University of Michigan under whose direction the casts were originally indexed.

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Osteogenesis Imperfecta with Dentinogenesis Imperfecta:

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A Review of the Literature and Presentation of Two Cases.

REVIEW OF THE LITERATURE

Although osteogenesis imperfecta and dentinogenesis imperfecta occur together more often than by mere chance, very few articles in the literature have reported such cases. Bauer,¹ in 1920, was the first to examine in detail the dental changes in a seven months' old foetus with osteogenesis imperfecta foetalis. Following his report, several papers were published on

this subject, mainly by German workers who examined foetal material,^{2,3} premature babies,^{4,5} and adults.⁶ Becks,⁷ in 1931, appeared to be the first to have introduced the topic to the American and English literature. In 1929, Wilson and Steinbrecher⁸ described the peculiar shape of the roots of teeth in osteogenesis imperfecta. Rushton⁹ reported a case of osteogenesis imperfecta, and observed that the dentin was structurally identical to teeth with dentinogenesis imperfecta. He noted, however, that in osteogenesis imperfecta the dentin appeared to have a lesser collagen content and fewer radial vascular inclusions, as well as a greater number

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of Tomes' fibrils. In 1949, Winter and Maiocco¹⁰ presented two cases of osteogenesis imperfecta with dental manifestations. They also described in this article a familial case of osteogenesis imperfecta involving five members of the family and a case of dentinogenesis imperfecta followed back through six generations. Recently, Bergman¹¹ investigated the growth pattern of dentin in osteogenesis imperfecta and arrived at the conclusion that although the dentinal development is markedly retarded in this disease, appositional growth takes place over a prolonged period of time, thereby contributing to the early obliteration of the pulp space. Most teeth examined showed a normal layer of mantle dentin about 30 microns in thickness. Heys¹² presented the clinical and genetic aspects of both osteogenesis imperfecta and dentinogenesis imperfecta as found in the study of eighteen families. In eight of the eighteen families, both osteogenesis and dentinogenesis imperfecta were known to be present in two to six generations. The present report deals with the dental aspects, clinical and radiographic, of two cases of osteogenesis imperfecta.

CLASSIFICATION

Osteogenesis imperfecta is usually classified into two main types (Knagg's classification).

1. Osteogenesis imperfecta congenita or osteogenesis imperfecta foetalis.
2. Osteogenesis imperfecta tarda or osteopsathyrosis idiopathica.

The first type is associated with prenatal development and may occur in fetuses, premature infants, and full term babies. The latter two generally do not survive long after birth. The second form is observed after birth, but sometimes not before the first or second year when the main physical manifestation is the unusual number of fractures.

SIGNS AND SYMPTOMS

The signs and symptoms of osteogenesis imperfecta may be summarized as follows:^{10,13}

1. Marked fragility of bones resulting in multiple fractures.
2. Blue colouration of the scleras believed to be due to the choroid layer showing through the abnormally thin or transparent sclera.
3. Peculiar shape of the skull resulting from the patchy calcification of the calvarium, thereby producing an irregular contour with many wormian bones separated by connective tissue strips.
4. Laxity of the ligaments.
5. Deafness caused by otosclerosis.
6. Dental changes.
7. Abnormal muscular response to electrical stimuli.
8. Generalized osteoporosis with reduction in width of the cortices and diaphyses; the epiphyses remain normal in width. Radiographic examination may also disclose evidence of several previously sustained fractures with resulting deformity and callus formation.
9. Excessive sweating and a protruding abdomen.¹⁴
10. Biochemical findings: the serum levels of calcium and phosphorus are within normal. The alkaline phosphatase levels are elevated in 25 per cent of the cases or within normal limits. One of the most striking findings in osteogenesis imperfecta is the poor retention of sodium observed during the investigation of the mineral metabolism in some of these patients.^{12,13}

All the signs and symptoms are not, however, always present in the same patient. Whereas mild states may present one or two features, the more severe conditions will exhibit several of these characteristics.

PROGNOSIS

In osteogenesis imperfecta tarda, a remission of the disease appears to occur in many children reaching puberty. Winter and Maiocco¹⁰ in their evaluation of this disease state that the prognosis improves as the patient becomes older.

ETIOLOGY

Although the genetic aspect of osteogenesis imperfecta has been well described in the literature, the precise nature of the disease is not well understood. This condition is genetically dominant and autosomal, but may be extremely variable in the degree of phenotypic expression.¹² The basic pathologic state appears to be an intrinsic failure in mesodermal development and/or endocrine dysfunction.

DENTAL FINDINGS

A. Clinical findings: These are similar if not identical with dentinogenesis imperfecta. The crowns appear slightly bell-shaped. The roots are short and stubby. The enamel seems to be more translucent than normal. The colour varies from an opalescent amber colour to an opalescent bluish tinge, passing through various shades of brown and purple. Both deciduous and permanent teeth are usually affected, although the permanent teeth may appear more normal than their predecessors.

B. Radiographic findings: Obliteration of the root canals and pulp chambers seem to occur rapidly and early. The stubbiness of the completed roots is evident and may sometimes be noted as well in incomplete roots. In addition, periapical abscesses involving teeth that are non carious and have no history of a previously sustained injury are observed in numbers greater than normal. The most likely explanation for the latter finding is the rapid rate of wear of the affected teeth with resulting microscopic pulp exposures and subsequent pulpal degeneration leading to periapical involvements.

C. Histological findings: The enamel formation appears normal except for some decreased degree of calcification and an altered index of refraction.¹⁰ The primary dentin exhibits a poorly formed matrix attributed to deficient laying down of cementing substance and lack of produc-

tion of Korff's fibres. Tomes' fibrils are fewer, sometimes wider than normal, with irregular intervening spaces. However, a layer of mantle dentin, about 30 microns thick, and appearing quite normal, is present in most teeth.¹¹ The secondary dentin near the incisal edge is poorly formed, has no Tomes' fibrils, Korff's fibres, or cementing substance of odontoblastic origin. Cellular inclusions are found in the dentin, most of which are undifferentiated mesenchymal cells of pulpal origin, which have replaced the odontoblasts. Nearer to the apex, however, conditions gradually improve so that apical dentin appears almost normal.^{7,9}

CASE HISTORIES

Case 1.

C.C., born on December 2, 1954, is a small girl with a known history of osteogenesis imperfecta. She was last admitted to the hospital on October 15, 1959, with fractures of the left humerus and the right femur, following a fall. She had sustained fractures previously in 1958 when she broke her right and left femur in succession. On physical examination, she appeared as a friendly girl, somewhat undersized. Some deformities were present in the long bones, especially marked in her legs, presumably a result of her previous fractures. The head was unusually large with an irregular contour. The eyes were slightly protrusive with scleras coloured a very pale blue. She also perspired quite readily and profusely, especially when apprehensive as during the examination.

Case 2.

W.L. was born on February 2, 1948. He was first admitted to hospital on March 11, 1952, following a fracture of the right femur, sustained during a fall. The parents reported at that time a fracture of the left femur when W.L. was two years old. Subsequent radiographic examination in July, 1952, revealed generalized osteoporosis which, however, was not felt to be sufficiently diagnostic of osteogenesis

imperfecta. Calcium, phosphorus and alkaline phosphatase levels were normal. Some of the clinical signs, however, seemed to point to osteogenesis imperfecta as a possible diagnosis. The boy exhibited slightly blue scleras, and dental changes characteristic of dentinogenesis imperfecta. On further examination, the number of signs and symptoms appeared to offer sufficient justification for the diagnosis of osteogenesis imperfecta.

DENTAL FINDINGS IN CASES 1 AND 2

A. Clinical features: C.C.'s dentition was characteristic of opalescent dentin, involving both the deciduous teeth and the already erupted permanent teeth. The dentition was markedly worn down except for the newly erupted lower permanent central incisors which presented well defined mammelons. All the teeth were amber coloured with the characteristic opalescence seen in this condition (Fig. 1).

The molars exhibited whitish patches in areas where one would expect to find relatively thicker enamel. Some of the enamel covering the cusps of posterior teeth was chipped and generally appeared less calcified than normal (Fig. 1).



FIGURE 1

A case of dentinogenesis imperfecta associated with osteogenesis imperfecta (C.C.). Newly erupted lower central incisors are opalescent, but do not yet show any evidence of wear. Note the chipped enamel on the deciduous teeth.

W.L. presented dental changes of a different nature since only the deciduous teeth seemed affected. The permanent anteriors and the first molars appeared well formed and of normal colour and consistency. The deciduous teeth, however, were similar to those of C.C. in appearance.

B. Radiographic findings: Dental radiographs of C.C. showed incompletely formed roots in the lower incisors. However, the general outline of the roots tended towards a shorter and thinner root than that which is normally found in incisors at this age (Fig. 2). The other permanent teeth were not sufficiently developed to show radicular changes.

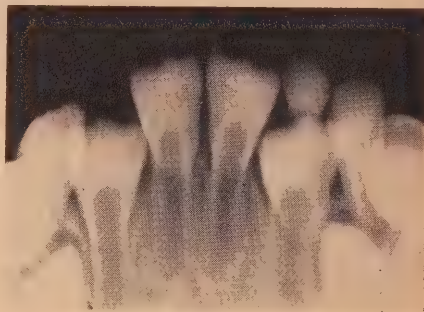
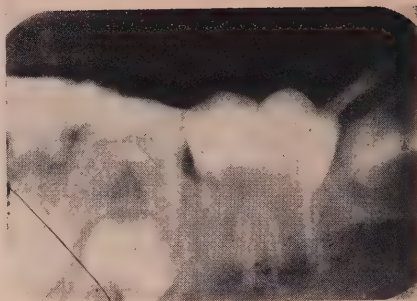


FIGURE 2

C. C. Radiograph of lower anterior teeth illustrating the tendency towards short roots. Note the peculiar rounded outline of the pulp chambers in the permanent incisors.

The crowns appeared a little more bell-shaped than normal teeth, although not markedly so. The pulp spaces in the deciduous molars appeared to be reduced in size, especially in the first molars (Figs. 3 and 4). An interesting feature in the case of C.C. is related to the unusual contour of the pulp chambers of the permanent teeth. A peculiarly smooth and rounded outline seems evident both in the incisors and the first molars in the area where



FIGURES 3 AND 4

C. C. Radiographs of the mandibular left and right molar area. Note the marked bell-shaped crowns of the first permanent molars and the rounded outline of the pulp chambers in these teeth. Marked wear is evident on the right deciduous molars. All deciduous molars exhibit characteristic tendency towards obliteration of the pulp canals and pulp chambers.

pulp horns are usually visible on the radiograph (Figs. 2, 3 and 4).

Radiographs of W.L. were essentially negative, although the right maxillary premolars appeared to be congenitally absent.

No evidence of bone pathology was present in either case.

Because no teeth could be obtained for sectioning, a histological examination of these teeth was not possible.

SUMMARY

Two cases of osteogenesis imperfecta in conjunction with dentinogenesis imperfecta were presented, together with a very brief review of the literature on these conditions. The dental, clinical and radiographic features present in these cases were described and illustrated. A special notice should be paid to the peculiar shape of the pulp chambers as visualized in the dental radiographs.

ACKNOWLEDGMENT

The author is grateful to Dr. G. Niki-foruk, Assistant Director of the Dental

Department, Hospital for Sick Children, Toronto, for his valuable help in the preparation of this report.

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The Growth of Dental Research in Canada

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There has been a dramatic and exciting increase in dental research activities in Canada within the last decade — an increase surpassing anything that has ever happened before. Dental research has really come of age during this time and is still growing rapidly. Even within the five years between 1954 and 1959, the number of men on the staff in Canadian dental schools who have graduate research training in addition to their dental degrees has almost doubled, research laboratory space in the schools has increased eight times, and the amount of money spent for direct financial support for research projects has at least doubled.

Most dental research is done in the dental schools as might be expected, although other University departments, particularly basic biological science departments, also contribute a significant and important share.

This recent and rapid expansion in dental research apparently came about for two reasons, and the first and most important was the long-standing realization by the dental profession that the battle against dental disease in Canada could never be successfully won if treatment were to be the sole weapon. It was recognized a long time ago that methods for prevention and control of dental disease had to be found and that such methods could only be found through research.

The second reason was the later understanding that if research were to be done by dentists, then dentists would have to be trained to do it. Accordingly, worthwhile funds were organized, first through the Canadian Dental Association and later through the National Research Council to provide the necessary Fellowships to assist young dental graduates to acquire graduate training in research. Many such qualified men have been taken on the staffs of dental schools and the impact of their work is now being felt.

The expansion in dental research began about a decade ago in the Dental Faculty in the University of Toronto, and it has since spread to other schools so that today all six dental schools in Canada have active research programmes under way. Research is now thought of as one of the expected products of a dental school. Not all research is being done in the Universities however, and probably the other most important single contribution comes from the efforts of Dental Public Health Officers in Canada. Such men are in a unique position in having a better opportunity than anyone else to compile data on the incidence of dental disease as it occurs in the various population groups within the country.

As has been mentioned, the realization that research in dentistry was both desirable and necessary is not new, as is evidenced by the fact that as early as 1920 the Canadian Dental Research Foundation was established to support and encourage research activities in this country.

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The broad, liberal and imaginative terms of reference for this Foundation attest to the vision and foresightedness of its founders — Drs. G. R. Anderson, H. K. Box, H. Clark, F. J. Conboy, W. E. Cummer, G. Gow, G. G. Hume, H. M. Lancaster, A. D. A. Mason, W. M. McGuire, R. G. McLean, S. M. Richardson, W. Seccombe, W. G. Thompson and A. E. Webster. The capital funds of the Foundation were provided through donations by members of the dental profession across Canada from coast to coast and the interest from the fund is still being used to support research. This money was the first national fund raised for this purpose in Canada. Since 1944 the Canadian Dental Association has allocated an annual sum for Fellowships to enable graduate dentists to take research training — Fellowships which have been extremely valuable in preparing young men for careers in teaching and research. At present the largest single amount of money available to support dental research in Canada is that provided by the National Research Council. About 15 years ago the Council established the Associate Committee on Dental Research, which each year recommends grants to support research projects in dentistry. The National Research Council also provides Fellowships somewhat similar to those provided by the Canadian Dental Association. Since 1945 the funds allocated to the National Research Council Committee have increased from \$35,000.00 to \$100,000.00 and at present the demand for funds far exceeds the supply. Other Federal agencies (e.g. the Department of National Health and Welfare) also provides some support for research projects in dental schools.

Canadian dentists themselves have donated much of the money to support dental research in this country. In 1920 capital funds of more than \$16,000.00 were raised, largely through individual donations, to establish a Canadian dental Research Foundation. The Canadian Dental Association has contributed \$53,500.00

since 1934 for its Fellowship programme, and since 1953 dentists in the Province of Ontario have donated approximately \$140,000.00 to support dental research in the University of Toronto. Such interest and sacrifice on the part of a profession is unique and is something for which dentists should feel great pride.

Because the most challenging problem facing dentistry is that of preventing dental disease, most dental research in Canada is aimed toward finding a solution for this problem. Many of the projects underway therefore, are designed to gain a better understanding of the biological structure and function of the teeth and their supporting tissues, in the belief that such information will ultimately lead to a better understanding of dental diseases — an understanding which is a prerequisite to prevention. In addition, however, studies of radiation hazards in dental radiology, of surgical techniques, of anaesthetic agents, and of materials and methods in restorative dentistry, all have contributed to the comfort and safety of dental patients.

Dental research in Canada is still growing and at a very rapid, though healthy rate. The chief limit to growth at this particular time is the limitation in funds available for research support. There is good reason to believe that within the near future this limitation may be reduced considerably by finding additional money for this purpose. The future still holds many of the secrets as to the cause and prevention of diseases afflicting teeth and their supporting structures — secrets which will only be revealed by research and lots of it. The solution to many of our problems are closer than they were a decade ago, thanks to the work which has gone on during that time. In any case there is no doubt that because dental research is being conducted in Canada to-day, Canadians will be better served by the profession in the future.

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The Role of Dentistry in Public Health*

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INTRODUCTION

"The dental profession exists for a number of reasons, but mainly to provide dental services to the people." This statement by Fleming¹⁶ has most simply and accurately described the primary role of the profession. Perhaps to more readily understand the impact of this statement one has to be cognisant of activities implied by the terms dental services. Brock⁴ enumerates dental health services to include the following: "1) health education; 2) prevention of dental disease; 3) control of dental disease by treatment to arrest its progress; 4) rehabilitation or correction of the results of the disease; and 5) maintenance of optimal oral health." With the ramification of the term dental services, the role can be further simplified into four aspects: 1) prevention; 2) treatment; 3) education; and 4) research.

In order to expand further upon the discussion of the role of dentistry within the scope of public health, there is need for a full understanding of the term public health. C. O. Dummett¹⁴ has defined health as "a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity." Public health in turn has been defined as "the art and science of preventing disease, prolonging life and promoting physical health and efficiency through organized community efforts."³⁵ In terms of these definitions the role of dentistry

looms as a monumental task when it is realized that dental disease, especially dental caries is recognized as one of the most prevalent of the maladies which afflict mankind, occurring, as statistical evidence indicates, in 95 per cent or more of the population in the U.S.

The first organized public health movement in North America was initiated in 1798 by the Fifth Congress of the United States, when it established the Marine Hospital Service to provide medical care for ill and disabled merchant seamen. However, it was not until 1919 that dentists were first employed by the service.³³

In Canada, the first public health movement was an organized community effort undertaken by white immigrants to build hospitals to combat epidemics which took a heavy toll of white settlers and ravaged the Indian population. Interest waned and it was not until 1919 that the precursor of the Department of National Health and Welfare was established.

The importance of dental health in relation to general health was not sufficiently appreciated by the public health professions at the turn of the century. The first real impetus toward this recognition was brought about by Dr. William Hunter's presentation at McGill University in October of 1910, which dealt with this very problem, and stirred up interest in both dental and medical professions. The problem was further highlighted by the shocking oral conditions of American men during draft board examinations for World War 1. It aroused public interest and stimulated the development of organized programs in dental public health,

* First prize War Memorial Award essay.

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which were largely restricted to the establishment of clinics, in larger cities, for school children of indigent parents, or those with low incomes.

Interest waned and programs lapsed due to neglect. Oral examinations of World War II draftees again re-emphasized the need for a concerted effort to combat dental disease. An effort to stimulate interest was undertaken and developed on many levels; local, state and federal, and in 1945 on an international level with the establishment of a Bureau of Dental Health within the World Health Organization (W.H.O.) program.³⁶ Encouraging advances led Knutson²² to note in 1954 that more had been accomplished in dental public health in the last fifteen years than in the previous fifty.

USE OF SURVEYS

No private practitioner or other well-meaning individual or group can attempt to create a public health program in a given area without first having secured, studied and assimilated adequate basic information which would bear out the need for a program. Generally, there are no common sources of information on the prevalence of dental disease in population groups. As Knutson³⁰ points out, dental disorders are not reportable, thus information must be collected by special methods. The survey is a method particularly adapted to obtaining this material.

Effective application of measures for the control of disease depends to a great extent upon knowledge of the manner in which disease occurs in population groups. Collection of information concerning community characteristics of a disease is, therefore, an acknowledged prerequisite to intelligent and effective planning of a control program.³¹ Surveys are widely employed by public health workers and are designed to secure selected items of information on conditions in a group, or a representative sample of the population.

The value of information secured to

establish and operate control programs is no greater than that of information collected periodically to assess the work of the program. Therefore, evaluation is dependent upon the periodic accumulation, compilation and comparison of data obtained. Knowledge concerning prevention and treatment of disease is never absolute, and continued search for new and better methods for prevention and control should be maintained.³¹

Prevalence and treatment needs resulting from dental diseases and abnormal conditions are determined through survey data. Needs are related to occurrence of diseases or conditions, thus a quantitative expression of their frequency in a group surveyed can be used as an indirect measure of needs. The caries experience rates are the most widely used survey data, and expressed in quantitative terms as the DMF rate. It was evolved in the analysis of a nation-wide dental survey carried out in the winter of 1933-34.²⁷ It represents the accumulated caries experience in the permanent teeth at age-specific intervals. Caries experience in deciduous teeth has been referred to as the "def" rate, as represented by a summation of teeth which can be filled, are indicated for extraction, or are filled.¹⁹

For the purpose of conducting comprehensive surveys of malocclusion, Pelton and Elsasser²⁹ collaborated to establish a dentofacial index (DFI). This index expresses the degree as well as the severity of the malocclusion, and was made possible through Elsasser's development of the Facial Orthometer.¹⁵

King²⁰ presented one of the first attempts at defining gingivitis in objective and quantitative terms. He observed that gingivitis in children began at the tip of the interdental pupilla, and spread by way of marginal gingivae into the attached gingiva. Schour and Massler³⁴ suggested a quantitative clinical method of assessing gingival disease (PMA index) which was based on King's observations. Noting the location of the gingival inflammation, and indicating it with the appro-

priate letter (PMA) provides an index of the severity of gingivitis.

PREVENTION

The objective of any program for the control of a specific disease is the elimination or reduction of the consequences of the disease such as illness, disability, or death. Control may be accomplished through application of preventive or treatment methods. The first of these may be used to eliminate the consequence through the prevention of its occurrence.

Prevention has been summed up by Brandhorst³ as "the very foundation of dental service." It may be divided into: 1) the prevention of diseases of the hard tissues; 2) the prevention of diseases of the soft tissues.

Perhaps one of the greatest challenges in dentistry today is the prevention of dental caries since it is unquestionably the most prevalent chronic disease affecting American people today. However, there is now a powerful preventative measure — fluoridation. Of all dental public health measures, fluoridation of public water is perhaps the most needed and promising.

Initial studies by Dean and associates¹² carried out (in 1933-34 demonstrated a) exact relationship between extent of caries in children and the amount of fluorine in their drinking water, with children using a fluorine-bearing water showing the least amount of decay, and b) that caries-inhibitory effect is exerted at fluoride levels too low to cause objectionable mottling of enamel. Cox and Hodge¹¹ found that optimal effects were seen at a drinking water concentration of about one part per million of fluoride.

The results of the classic and often quoted studies conducted in Grand Rapids, Michigan, in Newburgh, New York, and in Brantford, Ontario showed that children in these communities received the same caries inhibitory benefits following use of drinking water to which optimal amounts of fluorine had been added.

Fluoridation has been found to consistently reduce dental caries by as much as sixty-five per cent.⁵ Surveys and studies not only in the United States, but on an international scale were in agreement with these findings.

According to the American Dental Association,¹ there was "virtually no disagreement on the effectiveness of controlled fluoridation in reducing the incidence of dental decay." No recognized national health organization, association, or group had gone on record as being opposed to fluoridation.

In areas where it is uneconomical, not feasible, or where opposition has prevented the addition of fluorine to public water supplies, topical application of the ion has been instituted. Cheyne⁹ reported caries incidence reduced about one half in a small group of children treated with a 1:500 solution of potassium fluoride. Knutson and Armstrong²³ arrived at much the same results in their studies in which a two per cent sodium fluoride solution was the agent. Results have been promising and topical application has become the treatment of choice in the above prescribed areas, and in patients in optimal age groups. Other methods of supplying fluorides, such as food supplements, condiments, etc. are under study presently.

Studies have indicated that there is no correlation between nutrition and the prevalence or incidence of caries. However, nutrition has been shown by McLaren²⁶ to play a vital role in proper development of the tooth. The progress of caries, however, may certainly be altered by changes in diet. The incidence of caries is usually decreased when carbohydrates, particularly refined carbohydrates are eliminated. Bunting⁷ reported, diet controls dental caries through the determination of the environment of the teeth, rather than through changes in the resistance of the tooth itself. Caries susceptibility tests by Bunting and associates⁸ led to their conclusion that there was a definite correlation between the carbohydrate content of the diet, the presence of lacto-

bacilli, and susceptibility to dental caries.

Further evidence has been provided by the Vipeholm²⁸ study which has demonstrated that there exists an important relationship between the physical properties of sweet foods and the degree to which they are cariogenic. Brown⁶ outlines the importance for, and the responsibility of the dentist in giving dietary advice for the purpose of prevention, and presents practical suggestions to achieve this objective. In mass education, public health services are attempting to make the public more cognizant of these facts.

It is generally recognized that periodontal disease is a major oral health problem, but the severity of its impact upon dentitions is sometimes lost sight of. It has been estimated that approximately 60 to 70 per cent of the tooth loss in the United States after the age of 40 is caused by periodontal disease.¹⁸ These findings, along with many others, indicate the challenge presented by periodontal disease as a public health problem. Although it is not known whether mass preventive methods can be developed for periodontal diseases, early recognition and prompt treatment is essential for control.³² Early diagnosis is the key factor in our prevention program for this and other oral lesions.

TREATMENT

The second method mentioned in control of disease was treatment. Whereas prevention eliminates occurrence, treatment may be instituted to lessen or mitigate the disease or interrupt its course. Here again, carious lesions present a major problem. It has been pointed out that though virtually everyone falls victim to some form of dental disease, yet not more than three persons in ten receive sufficient dental care.¹⁰ The end product of this neglect is a tremendous backlog of unmet treatment needs. On the credit side of the ledgers, fluoridation promises reduction in dental caries in children. However, this program will result in

carrying more teeth into adulthood and in turn will mean an increased demand for dental service to preserve them.

Provision for adequate personnel to meet current demands for dental care services poses a problem to the dental profession. In 1957, Fleming¹⁶ noted that "there is a population ratio of 1,800 per dentist, with 35 per cent of the population requesting dental service. In 1975, we face a population ratio of 2,400 per dentist, with closer to a 50 per cent demand for service." Even with additional schools there is little prospect that the shortage of dental manpower will be alleviated to any marked extent within the foreseeable future.

One of the most rational and non-controversial means of meeting demands for services is through the effective utilization of auxiliary personnel. Klein estimates that the patient load per dentist can be increased from 33 to 75 per cent through the use of trained assistants²¹. Though this does not by any means solve the problem, it can lead to at least possibility of treatment where none existed previously.

In treatment of dento-facial deformities, a very real program retardant is the fact that most people fail to regard dental defects as being physically handicapping. The prevalence of malocclusion has been reported in 27 per cent of 7,400 children surveyed by Fulton¹⁷ in Michigan. This figure indeed is a large percentage, and falls within the average found in other studies.

"Cleft palates, severe malocclusions, and crooked teeth in terms of speech, function, proper food mastication and probably most important in terms of esthetic situations accompanying these conditions, are frequently tragically physically handicapping defects which follow the child throughout his adult life. These are dental problems which affect the whole community just as surely as they affect the individual."¹⁶ The problem of treatment in these cases is more acute, requiring specialized personnel, and long periods of costly treatment. Small clinics staffed by

volunteer personnel on part time or advisory basis are in evidence in many communities. Meanwhile, studies to discover the most effective method for dealing with these conditions are being carried on.

Since statistics indicate that the death rate from cancer in the United States is on the increase, and that approximately 10 per cent of all malignancies occur in and about the oral cavity, the dentist has an important role in the control of cancer. Statistics of the Memorial Hospital for treatment of cancer and allied diseases in New York City show that 60 per cent of the patients with cancer of the gums had consulted a dentist first.²⁵ The average patient rarely seeks medical care unless he is ill, but has been educated to see his dentist once or twice a year. Therefore, the dentist's opportunity to inspect the apparently well population is unique.²⁴ He is in an excellent position to render his patient a real health service by being on the alert for signs or symptoms of oral pathology. This can be readily appreciated in light of Knutson's statement that life or death for the oral cancer patient is determined by the first professional person with the opportunity to detect the disease.

EDUCATION

Health education is one of the most essential activities within the field of public health. The progress in the control of oral diseases has been brought about by increased knowledge of etiology or cause, accompanied by considerable progress in the area of health education. Since an informed and cooperative public is important in an attempt to control a disease, any successful control program is based upon an effective program of health education.

Dental health education of the public must have intelligent planning and intensive organization directed by a competent health educator. The American Dental Association through its Council on Dental Health has stimulated the organization of state and local councils, some of which have developed to such a degree that they

have appointed qualified full-time professional educators as directors of their regional programs. Professional societies on the national, state and local level are well equipped to contribute to health education programs. Material for dissemination of information which is obtainable from these organizations include: books, leaflets, slides, film strips, movies, radio transcripts, exhibits, etc. A few dental societies have experimented with newspaper advertising campaigns to disseminate information. Community service clubs have sponsored periodic television presentations in dental health education programs. In many areas it has been shown that the educational effort properly directed, results in progressive improvement of dental health.

RESEARCH

Research in the field of oral health has now reached the threshold of realization that in order to progress further it must look far beyond the limitations of the oral cavity.² The health and well-being of the teeth, and associated structures are associated with and are dependent upon the health of the individual as a whole.

Research is undeniably an extremely vital part not only of a dental program, but of every public health program, whether it is cancer research material, child research or whatever it may be. It comprises the preliminary background work for all progress in prevention of disease as well as treatment. The present research resources in the United States consists of 43 dental schools and 7 dental research centers. These are practically without endowment and burdened with this effort to increase and support facilities needed to train researchers. Increased federal support seems to be the only possible solution.¹³

The profession through the American Dental Association is currently spending nearly a quarter of a million dollars per year in direct research efforts. The Public

Health service through its research grants helps support the investigations of research scientists in their own institutions. The service also conducts studies and research at the National Institute of Dental Research in Bethesda, Maryland, and its affiliated clinical centre. Dental investigations, though on a smaller scale, are carried out in other centers throughout the country. Research in dentistry has made rapid strides in recent years, and will undoubtedly make greater contributions in the immediate future.

SUMMARY

It is difficult, if not impossible, to segregate the role of the profession from that of the individual member within any given program. The instrument in the implementation of any health program within the dental profession is the private practitioner. Therefore, in the final analysis, the role of dentistry in public health is essentially the same as that of the dentist.

In prevention, the dental profession has a continuous responsibility of pressing for universal acceptance of a fluoridation program. Success in any plan for prevention also depends largely upon continuing dental health education to accompany the program. The profession must also maintain a continuous search for new and better methods for prevention.

Treatment must be provided for all who need and desire it, not only for those who can afford these services, but also for the indigent as well. It is the responsibility of dentistry to see that adequate clinic facilities, personnel and services are made available to this segment of the population. Various payment schemes and insurance plans should be investigated and implemented to make these services available to many who otherwise might find them financially out of reach.

Experience has proven that actual dental services are best rendered in the office of the private practitioner. The whole environment is conducive to good service.

Perhaps this is where the education of the patient really begins. Here the dentist has an excellent opportunity to present the proper message of health service.

There is a multiplicity of roles for dentistry in education, as its role is not merely that of instructor, but also that of student. In rendering health service, the responsibility of the profession does not end with education of the patient and the public, but continued education of itself as a whole, through improvement and enlargement of educational facilities and programs, and through self-education of its individual members during their professional lives. It is the responsibility of dental education not only to provide society with well-trained clinicians, but with individuals who can fulfil with competence and distinction the role of advisor and counselor on community health programs.

There is need for greater public interest in dental research in order to attract funds necessary for the proper execution of any research program. It is the obligation of the profession and each individual member to press for federal support and seek financial assistance for worthy projects from private or commercial sources whenever possible.

CONCLUSION

A community project such as a dental health program, born of surveys and analysis, should be stimulated and encouraged by the dental profession and depends largely upon the character and quality of the practising dentists themselves.

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ADDITIONS

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EDITORIAL

Recruitment

Everyone in dentistry appears to be an authority on the subject of recruitment — everyone that is, who has thought about it at all. Since these observations will be largely hypothetical, let's be optimistic and assume that ten percent of the practicing dentists have given the matter even faint consideration. Of this ten percent probably all participate in some phase of organized dentistry. If these remarks approach fact and I strongly suspect they do, they are neither surprising nor meant as a criticism.

Many private practitioners have yet to burden their minds with the realities of dentist to population ratios, the number of graduates today compared with ten or twenty years ago, the ultimate demands of an increasing population, and many other somewhat alarming data. The reason they remain unburdened and seemingly unconcerned is because they are

just too busy coping with the exhausting pressures of their private practices. An appointment book black with names leading on into one or more new seasons is an ominous enough concern to the individual dentist without the added worry about things that may not come home to roost for many years.

This does leave a rather substantial problem in the laps of the ten percent for they who are familiar with the facts are morally and professionally obliged to divulge this information to their more sheltered confreres. One may challenge the word facts since some of the material used here is subject to rather loose interpretation and may have been computed from loaded questions.

In order to measure the appeal that dentistry offers the prospective candidate you must of course ask the candidate and this is where certain questionnaire pro-

cedures are weak at the seams. Every high school student with a mind worth questioning will know immediately that there are two answers to most questions—one that he realizes you would like to hear and one that is the truth. Since it doesn't cost anything to presume let's guess once more that fifty percent of the time these two answers would really be the same. Only if the answers came from a psychiatrist's couch could you be sure of the other fifty percent.

Examples of typical recruitment questions are to be found in the excellent Recruitment Manual of the American Dental Association but the problems of interpretation will be very evident. To the question "why did you choose dentistry as a career?" the primary influence seemed to be a desire to work for and with people — now that is good. Many others were motivated secondly by an interest in the content of the profession — again a nice answer. The third stimulus was a desire to be one's own boss — now we are making progress. Three other large groups were interested in working with their hands, prestige of the profession, and the monetary advantages. The last significant factor was the influence of a booklet entitled *Career in Dentistry* that wooed fifty percent well down the line. From here on the questions and answers became rather lame. As a practising dentist looking very objectively at these questions and answers there are certain ones that I would accept as hopeful tools in recruitment and others that I would reject. Answers one and two are very acceptable but probably unrealistic. The next four (with the possible exception of the one about the desire to work with your hands) offer real encouragement and I am sure could lead to fruitful exploitation.

Looking back it seems to me that I chose dentistry as a career because my parents thought it would be a worthy future for their son in which he would be assured of a good income, prestige, and

would be his own boss. I would be something less than honest if I said otherwise but I would like to feel that the influence of my profession and certain other personal factors developed the remaining desirable reasons for serving in my profession.

Some readers may be up in arms at this stage fearing that the ideal of serving humanity, and its tremendous importance as fundamental motivation for an applicant in dentistry, has been overlooked. It has not. Ideally this should be the guiding philosophy in all health fields for without it our very foundations would tumble. This desire to serve one's fellow man in order that he may attain better health, seems to be born in some, acquired by many and completely eludes others. In certain applicants, this desire is basic and unshakable and there is no higher qualification for dentistry. This important aspect of our professional life must always be stressed. However, we do not need to avoid frank discussions pertaining to the more earthy dividends that accrue to one who serves in dentistry. The purpose here is merely to sort out the incentives and have a closer look at them.

Another section of the A.D.A. Recruitment Manual reveals the following in answer to "factors influencing applicants to select dentistry as a career." Seventy-five per cent of the applicants stated that the decision was largely their own. By many, the initial stimulus was credited to various individuals such as the family dentist, the father, the mother, other relatives, and college classmates.

Every single one of these responses leads to the family dentist. He is obviously effective in the one instance but has ideal access to all the other ones particularly to the personal decision applicants (seventy-five percent) for at one time or another all such persons sit in his chair.

If we distil these responses we can choose from the residue several very

potent measures for improving the recruitment situation. Let's tell prospective candidates that we do make a good living. Certainly if there is anyone qualified to practise dentistry who is not making a very comfortable living, the reason can be found in a full-length mirror. Secondly let us promote the desirability of being your own boss for though it is a privilege we must continue to deserve it is nonetheless a most enviable aspect of professional life. The prestige of being a member of the dental profession is based upon years of respected service and is not a light to be hidden modestly from view. It is a fact, we're proud of it so why not express our feelings with dignified justification?

Five of our provinces show a worsening of the ratio of dentists to population over the last ten years or more. In four provinces the situation is just about the

same as it was ten years ago which is poor, and in one province there has been a very slight improvement.

Predicted ratios based upon the years 1955-1960 strongly suggest that by 1970 the ratio will be appreciably more acute and of alarming concern to dentists and governments. The best opportunities of alleviating this situation are available to us — the men in practice. Of course there are unpleasant features in being a dentist but after all there are unpleasant aspects in just plain living. Happily, in both situations the good things far outweigh the bad. Thinking positively, we are fond and proud of our profession and would choose it again as our career. Dentistry is good to its practitioners and we can be good to dentistry by proclaiming its worthiness with obvious pride and enthusiasm. The case rests with the general practitioner.

BOOK REVIEWS

Dental Auxiliary Personnel

Prepared by: American Academy of Dental Practice Administration.

Edited by: R. K. Stinaff, D.D.S.

Published by: The C. V. Mosby Co.

Pages: 157. Price: \$3.85.

Unfortunately the title of this excellent 157 page monograph may be somewhat misleading as the contents relate, almost exclusively, to the Dental Assistant.

On January 30th and 31st, 1958, the American Academy of Dental Practice Administration conducted a two-day Workshop in Chicago for the purpose of studying factors pertinent to obtaining, retaining, training, and maintaining Dental Auxiliary Personnel. For each area of study at least one Con-

sultant has provided an introductory address. Then follows, for each study group, a most complete outline of the discussions preceding a question and answer synopsis of the deliberations of the group. It is doubtful if the proceedings of any Workshop could be presented in printed form more effectively. Each of the four facets is considered succinctly but in great detail and the book provides a veritable mine of information awaiting the enterprising prospector seeking guidance in this area.

An Epilogue consisting of three papers on Dental Assistants' education, communication in dental offices, and dentists and dental assistants in the future, provides a fitting conclusion to an excellent publication.

Wesley J. Dunn.

Partial Denture Construction — Principles and Techniques. Prepared by William L. McCracken, D.D.S., M.S., F.A.C.D. — St. Louis, 1960. The C. V. Mosby Company, 528 pp., illustrated, indexed. Price \$14.00.

Most of the textbooks on the subject of partial denture construction that have been published over the past few years have been expressions of the author's views with detailed instructions for following his favored techniques. Many such books make interesting reading but offer little as text or reference books.

This, most certainly, is not the case with the latest book on partial dentures published by C. V. Mosby Company and written by Doctor W. L. McCracken of the University of Alabama School of Dentistry.

In his preface, which is as readable and important as any other section, the author states his objectives in writing the book and his personal views on the practice of prosthodontics, which might well be taken as a personal creed by dentists, dental students and dental technicians.

The text of the book sustains admirably the tone established in the preface. The first chapter deals with terminology, the uniform use of which is essential if we are to communicate with one another intelligently. The next three hundred and fifty pages are devoted to principles and clinical procedures which follow along in a logical sequence from diagnosis and treatment planning to occlusal relationships. All phases are adequately discussed and well illustrated. Next follows a long and complete chapter on laboratory procedures which also are treated with completeness and clarity. Chapters which should be invaluable to practitioners and students are: one on cleft palate and maxillo-facial prosthesis by Dr. John J. Sharry and one of endodontic considerations by Dr. A. E. Thomas.

The construction of this new and valuable text is excellent, from the detailed table of contents to the list of selected references which are classified and listed at the end of the book according to subject matter. The clear and readable type and the adequate section and subsection headings make for ease and comfort in reading and the book throughout is beautifully illustrated with photographs and art drawings of the highest order. They are clear, instructive and pertinent to the text.

While one may not agree with all the state-

ments made and techniques presented, one must respect their validity and the sincerity with which they are presented by one of the leading clinicians and teachers of our time. The thoroughness and completeness of this textbook make it one of the most outstanding to be offered to the profession in recent years and it can be recommended without hesitation to both student and practitioner.

K. M. Kerr.

Precision Work For Partial Dentures — Prepared by: A. A. Steiger and R. H. Boitel. Published by: Buchdruckerei Berichthaus Zurich. Distr. in U.S.A. by Swiss Dentistry Distributors, Illinois. Pages: 229. Price: \$16.50.

This book is written to act as a manual both for the dentist and the dental mechanic in the construction of C.S.P. (channel, shoulder pin) attachments and stress-breaker partial dentures. The scope of the text is for those interested in advanced prosthesis only and a knowledge of basic prosthesis is presumed.

The main theme of the authors is the C.S.P. attachments. To this reviewer it would appear mandatory to employ a technician of great skill in the dental office, before undertaking the fabrication of such an attachment. Also there is some doubt as to whether it justifies the intricacies involved. The chief criticism of commercial internal attachments is the difficulty in compensating for wear on the male or patrix portion of the attachment. It would seem to me that the C.S.P. attachment presents the same problems.

Insofar as a stress-breaker or resilient partial denture design is concerned, there are two groups of thought within the profession. For those who believe in this particular design the European approach offers a few interesting variations over what is standard procedure in Canada. It is the personal opinion of the reviewer that in many cases, stress-breakers are used to compensate for a faulty impression, or casting technique.

The book is well illustrated, and is filled with suggestions which could be of assistance to the general practitioner in prosthetic practice. It is worth reading, and if for no other reason than to be more fully aware of the activities of our confreres in other countries.

William A. Shand.

CANADIAN DENTAL ASSOCIATION RETIREMENT SAVINGS PLAN

Statement of Unit Valuations as of May 31, 1960

GOVERNMENT BOND FUND

Investment at market value	\$106,227.99
Accrued income (interest)	479.61
Cash on Deposit	42.15
TOTAL	\$106,749.75
Less: Administration fee— $\frac{1}{8}$ of 1% of \$106,749.75	133.44
TOTAL MARKET VALUE	\$106,616.31
UNITS OUTSTANDING	10,501.716
Unit Value of Fund	\$ 10.152

CORPORATE BOND FUND

Investments at market value	\$178,884.79
Accrued income (interest)	899.91
Cash on deposit	22.67
TOTAL	\$179,807.37
Less: Administration fee— $\frac{1}{8}$ of 1% of \$179,807.37	224.76
TOTAL MARKET VALUE	\$179,582.61
UNITS OUTSTANDING	16,988.996
Unit Value of Fund	\$ 10.570

COMMON STOCK FUND

Investment at market value	\$350,688.32
Accrued income (interest)	—
Cash on deposit	875.84 (DR)
TOTAL	\$349,812.48
Less: Administration fee— $\frac{1}{8}$ of 1% of \$349,812.48	437.26
TOTAL MARKET VALUE	\$349,375.22
UNITS OUTSTANDING	29,702.443
Unit Value of Fund	\$ 11.762

Trustee: The Royal Trust Company

Information about the C.D.A. Retirement Savings Plan is available from Mr. J. T. Staddon, 2249 Yonge St., Toronto 7, Ont. Telephone HU. 1-5731.

THE ASSOCIATION

Alberta Approves Dental Auxiliaries Act

At the recent session of the Alberta Legislature Bill No. 83, an Act respecting Dental Auxiliaries, was enacted (April 11, 1960). In this Act "dental auxiliary" is defined as "a person other than a dentist who is trained to perform the dental services specified in the regulations as being services that a licensed dental auxiliary may perform in the Province".

This legislation provides that the Minister may:

- establish schools for the training of dental auxiliaries through agreement with the University of Alberta.

- prescribe the qualification for admission to schools; the courses required, the fees to be charged and the practice experience to be attained.

The Minister shall appoint a dental auxiliary committee to advise him on matters relating to dental auxiliary training programs and procedures. The committee shall be composed of the Director of Dental Health Services (Chairman), a representative of the Alberta Dental Association and three other members selected by the Minister, one of whom shall represent the University of Alberta.

A register for dental auxiliaries is to be established by the committee with the issuance of an annual licence. Dental auxiliaries under this Act shall render services only "under the supervision or direction of a dentist, who is at all times responsible for the services, and while the dental auxiliary is employed by a local health authority, or when the dental auxiliary's services are retained by a local health authority or by the Faculty of Dentistry of the University of Alberta.

No dental auxiliary shall charge or collect directly from the public any fee for dental auxiliary services".

Journal Shortage

The C.D.A. Library urgently requires copies of volume 25, number 2, the February 1959 issue. Members who can spare their copies are asked to send them to C.D.A. headquarters.

C.D.A. Journal Donated To Bombay Dental School

The Canadian Dental Association has donated a complete set of issues of the C.D.A. Journal to a dental school in Bombay, India.

The Sir Currimbhoy Ebrahim Memorial Dental College and Hospital at Bombay has extended its dental instruction to include a course leading to the degree of Master of Dental Surgery. Expansion of the library is being undertaken to meet increased needs. Request for the C.D.A. Journal came through the Department of External Affairs at Ottawa.

R.C.D.C. Quarterly

First issue of the new "R.C.D.C. Quarterly" has been published. The quarterly is the first regular publication of the Royal Canadian Dental Corps since the old R.C.D.C. Newsletter ceased publication in 1953.

Containing articles and news of professional and non-professional members of the Corps, the quarterly's chief purpose is to act as a means of exchanging news and views of members of the Armed Forces dental service.

C.D.A. President To Attend Swedish Centennial Congress

Dr. William G. McIntosh, C.D.A. President, will represent the Association at the centennial celebrations of the Swedish Dental Society in Stockholm, August 17-20. Dentists from all parts of the world are expected to participate.

The four-day session will include an extensive scientific program of essays, clinics, films and exhibits plus social events. Several post-congress tours are also being arranged. Information may be obtained from the Secretary, Svenska Tandlakare-Sällskapet 100 — arskongress, Nybrogatan 53, Stockholm O, Sweden.

Reprints of Economic Reports To Be Made Available

Reprints of reports from the C.D.A. Bureau of Economic Research are to be made available. The reports are to appear first in the C.D.A. Journal. Notice will be given in the Governors Letter of the Journal issues which will be carrying Bureau reports. Reprints of the Journal articles will be available through C.D.A. Headquarters after publication in the Journal.

Cancer Bulletin To C.D.A. Members

"The Cancer Bulletin", March-April issue, is being sent to all C.D.A. members through

the courtesy of the National Cancer Institute of Canada. Page 28 of the bulletin features an interview with Dr. P. E. Boyle, dean of the dental school at Western Reserve University. His interview discusses the dentist's role in cancer detection.

CDARSP Booklet Revised

Just published is a revised edition of the booklet describing the C.D.A. Retirement Savings Plan. The plan was started in December 1957 to allow dentists to take advantage of new income tax deductible contributions to investment-type retirement savings plans. CDARSP provides a sound complement to the insurance-type C.D.A. Pension-Assurance Plan.

The new booklets and further information are available from C.D.A. Retirement Savings Plan, 2249 Yonge Street, Toronto 7.

Villain Prize Candidates Sought

Federation Dentaire Internationale has announced that nomination of candidates for the 1962 Georges Villain Prize are now being accepted. The award, a cash prize paid in French francs, is given every five years for an outstanding contribution in the field of orthodontics or prosthodontics. The 1962 award will be for prosthodontics. Final date for submission of names to the prize jury is August 1, 1960. Presentation of the award will be made at the XIII International Dental Congress in Cologne, Germany in 1962. Names of candidates should be sent to Professor W. Krogh-Poulsen, Royal Dental College, 4 Universitetsparken, Copenhagen Ø, Denmark.

Four Saskatchewan Towns Start Water Fluoridation

Four Saskatchewan municipalities have begun fluoridation of their water supplies this year. This brings the total to thirteen, largest number of municipalities fluoridating in any one province. It is estimated that the combined population affected is over 162,000.

Latest to add fluoridation are Melville, population 5,000; Prince Albert, 21,875; Rosthern, 1,270; and Tisdale, 2,400 people.

Canadian Awarded Teaching Fellowship In U. S.

Dr. Arthur T. Storey, formerly of Sarnia, Ontario, has been awarded the \$5,000 American Dental Association Teaching Fellowship for 1960-61. Under the grant, Dr. Storey will begin graduate study next fall in the Rockham School of Graduate Studies, University of Michigan, leading to a Doctor of Philosophy degree.

Dr. Storey graduated from the Faculty of Dentistry, University of Toronto in 1953 and practised at Sarnia before going to the University of Michigan for further study in Orthodontics. His father Edwin Arthur, and a younger brother, Trevor Kenneth, also graduates of Toronto, practice dentistry in Sarnia.

Health Insurance Studies Committee Meets

The annual session of the C.D.A. Committee on Health Insurance Studies was held recently in Toronto under the chairmanship of Dr. P. G. Anderson.

Chief report was that of a sub-committee on prepayment plans for dental care. The committee approved for presentation to the Board of Governors a proposed pilot plan and revised principles. A progress report of a prepayment plan for orthodontic services was also heard.

Recent studies by the C.D.A. Bureau of Economic Research, on ages of Canadian dentists, report of dentists' remuneration in Great Britain, were also discussed. W. E. Jackson, secretary-treasurer of Canadian Dental Service Plans Inc. (DSPSI) also reported. DSPSI performs administrative and accounting services for dental service plans in half of Canada's ten provinces, with more likely to be added soon.

Among those attending the meeting were E. S. Dorion, Montreal; W. R. Scott, Vancouver; L. V. Janes, Hamilton; Louis Bernier, Quebec; T. R. Marshall, Toronto; D. C. Stiles, London; H. W. Reid, Toronto; and association officials.

McGill Students Win C.D.A. Essay Prizes

Two members of the graduating class at McGill University have won first and second prizes in the annual War Memorial essay competition of the Canadian Dental Association.

Stanley Frodyma of Holyoke, Mass., won first prize of \$125.00. Second prize of \$75.00 went to Howard Zucherman of Clayton, Missouri. Title of the essays for this competition was "The Role of Dentistry in Public Health".

The first prize essay is scheduled to appear in the July issue of the C.D.A. Journal, with the other winner following in the August issue.

The War Memorial Award is made annually from a fund donated by dentists to honour their colleagues killed in two World Wars. Dr. Louis Lepine of Montreal is chairman of the committee in charge of the competition.



Parliament Hill, the Centre Block standing serene, is still the heart of the National Capital. The East Block, home of External Affairs, is in the foreground.

(Photo by Dominion-Wide, Ottawa)

Your national dental organization is once again making plans for its annual convention. The dates selected for 1960 are September 25 to 28; the location is the magnificent Chateau Laurier in Ottawa, and our hosts are the hospitable members of the Eastern Ontario Dental Association.

The Convention program, as well as the business of the Board of Governors' meetings, are both instituted in your best interests. Help your patients, your profession, and yourself by attending and participating in the annual meetings of your Canadian Dental Association.

Bureau of Economic Research

The Report of the Royal Commission on Doctors' and Dentists' Remuneration, 1957-1960

An examination of the problems of payment encountered by British dentists during the first twelve years of the National Health Service can forewarn the Canadian profession of many difficulties likely to be faced in the future. It can do more than arouse in Canadian dentists a negative reaction. It should provide a stimulus to positive thought as well.

BACKGROUND TO THE APPOINTMENT OF THE COMMISSION:

In preparation for the introduction of the National Health Service in 1948, the British government appointed the Spens Committee whose job it was to consider what an average dentist in a public health plan should earn. As a result of their deliberations, a fee schedule was worked out between the profession and the Departments of Health; it would provide a dentist working 1500 chair-side hours with an income comparable to prewar remuneration (adjusted to the 1948 price level) and allow him 52 percent for practice expenses.

Because of the unexpected demand for dental services in the early days of the health plan, dentists worked longer hours and earned higher incomes than had been anticipated. Therefore, in February 1949, the government announced that it would pay only 50 percent of gross monthly income over £400. In June, this emergency regulation was withdrawn and a new fee schedule, 17 percent lower than the old, was introduced. By May 1950, this scale had again been reduced a further 10 percent. In June 1952, the introduction of co-insurance resulted in a drop in the demand for dental services. Between 1949 and 1952, the net earnings of dentists had fallen 48 percent in terms of real money.

In May 1955, the government cancelled the 10 percent fee reduction which had been applied in 1950, and a new schedule was drafted for adoption in April 1957. Subsequently, net earnings were increased by 5 percent in May 1957 and 4 percent in January 1959 causing an over-all rise in average net remuneration between 1952/53 and 1958/9 of 70 percent¹. Professor John Jewkes has said of the experiences of the dental profession from 1948 to 1959, "It would be difficult, even by searching the records of periods of violent economic upheaval, to find a parallel case where the standard of living of a whole occupation has swung about so wildly."²

RECOMMENDATIONS OF THE COMMISSION:

It was to prevent the reoccurrence of such "wild" fluctuations in income and to ensure that the remuneration of professional people would be fair as well as stable that the Royal Commission on Doctors' and Dentists' Remuneration was appointed in March 1957.

The Commission recommended that, at the present time, there should be no change in the current payments of units of dental service, and that a standing dental rate study group should be established which would represent the profession, the Health Departments, and time-study men. The function of this group would be to fix average times for each dental operation, determine the average hours worked per annum, and thus calculate a new scale of gross fees so that a dentist working between 2,050 and 2,200 hours in a year (in both public and private practice) would earn £2,500 annually for his National Health Service work alone. This group should then constantly "assess and keep under review rates for items of service based on

1. From £1390 to £2360, Royal Commission on Doctors' and Dentists' Remuneration, 1957-1960, Report, p. 179.

2. Ibid., p. 177.

proved performance of dentists."³

The Commission also advocated the establishment of a review body of seven members appointed by the government after consultation with the professions. No members of the medical or dental professions would be included. This committee would advise the Prime Minister on the desirable levels of remuneration of doctors and dentists. These levels should not change more frequently than once every three years. "It will be for the Review Body to say what dentists in the future ought to earn; it will be for the study group to arrange that this is what they do earn."⁴ When it is deemed necessary to change the average net income of dentists, the group would have at its disposal an up-to-date basis for a new fee schedule.

"The method of reviewing pay by means of an automatic formula" was specifically rejected by the Commission. "If we thought that doctors' and dentists' pay ought to be adjusted by reference only to one or two factors whose significance was capable of exact computation, it might be possible to use a formula. But in our view a great varie-

ty of factors are relevant to the settlement of their remuneration . . . No formula could cover all these considerations, the significance of which is a matter for informed judgment, not mathematical calculation."⁵

In addition, inducement payments were recommended so that dentists might be encouraged to settle in areas where there are now particular shortages of personnel.

Before arriving at their decisions, the Royal Commission studied the levels of remuneration received by other professional groups which were "broadly comparable with doctors and dentists in the sense that they were to a substantial extent competing for the same men and women as entrants."⁶ These professions were:

Accountants
Actuaries
Barristers and Advocates
Solicitors
Architects
Surveyors
Engineers
University Teachers.

The results of this survey are as follows:

RANK OF PROFESSIONS ACCORDING TO AVERAGE INCOME

Occupation	Rank in England		Rank in Canada ⁷
	1955/56 Mean Income	Median Income	1956 Mean Income
Medical			
General Medical Practitioners	5	3	3
Consultants	1	1	3
Senior Hospital Medical Officers	7	5	3
Dental			
General Dental Practitioners	3	2	9
Others			
Accountants	8	8	8
Actuaries	2	4	10
Barristers	6	10	6
Solicitors	4	6	6
Architects	13	13	1
Surveyors	9	12	10
Engineers	12	11	1
University Teachers	11	7	10
Graduates in Industry	10	9	10

SOURCE: Royal Commission on Doctors' & Dentists' Remuneration 1957/60 Report, p. 44; Department of National Revenue, Taxation Division, Taxation Statistics 1958, p. 9.

3. *Ibid.*, p. 6.

4. *Ibid.*, p. 6.

5. *Ibid.*, p. 144.

6. *Ibid.*, p. 22.

In the opinion of the report, dentists had been earning too little at the time of the Commission's appointment in 1957; but, since that time, they had benefited twice from an upgrading of the fee schedule. Their earnings had consequently increased at a greater rate than those of other professions (including the medical profession). Therefore, although raises and retroactive payments were recommended for the family doctors, they were rejected for the family dentists.

The British Minister of Health has stated in the House of Commons, "that Her Majesty's Government are prepared to accept the Commission's recommendations as a whole as they stand provided that the doctors and dentists respectively for their part are ready to accept them on the same basis."⁷

DETERMINANTS OF A FEE SCHEDULE:

The problems surrounding the question of pay for professional services are not ones peculiar to government health insurance. They can arise wherever there is a plan, welfare, commercial or association-sponsored, which removes the final decision of how much will be paid for services from private negotiations between the dentist and his patient. It is not enough for the dental profession to reject salary and capitation in favour of fee for service, the method of payment it finds most philosophically acceptable. It is not enough to agree to the original fee schedule on which payments are to be made. The profession must devise "a rational, objective, and balanced fee schedule", not just a "mixture of tradition, negotiation, and specialty group pressures."⁸ Unless the schedule is founded upon a set of logically justifiable principles, the profession will be incapable of defending it from outside criticisms. Unless it is arrived at in other than an ad hoc manner, each review of the scale will be an invitation to extended controversy.

There are two main determinants upon which the Royal Commission purposes to construct a fee schedule for dental services provided under the National Health Service.

Firstly, the annual net income of the average dentist must, in the words of Professor Jewkes¹⁰ meet "the test of the market:

whether, that is to say, present, and proposed earnings are sufficiently high to provide enough new entrants into a profession to match requirements." It is necessary, of course, not only to attract the right quantity but the right quality of entrants; they must not only be attracted to the field but kept in it. The Commission had, therefore, to ascertain whether earnings in dentistry compared favourably with earnings in other professions. They had to establish a proper balance between the earnings of doctors and dentists so that the one profession might not increase at the expense of the other. They had to study the income of dentists in other countries, particularly those to which British dentists might emigrate. Having considered all these factors, the Commission found no justification for an increase in remuneration at this time: as the existing dental schools are already filled to capacity, a raise in pay would not alleviate the current shortage of dentists and net emigration among dentists is no greater than among the population as a whole.

Secondly, the payment of this annual income should be on the basis of units of treatment, but the determinant of the fee for a specific type of treatment should be the amount of time taken to perform it.

The number of treatments given by dentists in Great Britain has increased in the last few years without a corresponding increase in the number of hours worked. The Commission considered that this could have been the result of one or more of the following:

"(a) a reduction in the proportion of non-chairside hours in the total hours;

(b) working harder during the same number of hours;

(c) completing more treatments in the same time through the use of improved equipment and techniques;

(d) the employment of more qualified assistants or ancillary help."¹¹ It has been the affect of the (c) part above which has most concerned the National Health Service in recent years. The report continues, "While we do not suggest that the whole of the increased output in recent years derives from the use of improved techniques, it is not reasonable that dentists should be paid automatically for the whole or that part of the increased output which is due to these techniques." "It does not follow . . . that, if for reasons other than for increased effort the number of items of service, or, alternatively, of courses of treatment carried out in one year is greater

7. The Canadian figures are presented only for purposes of rough comparison. They were not presented in precisely the same categories as the British figures and are not, therefore, strictly comparable.

8. Statement by Mr. Walker Smith to the House of Commons quoted in the B.D.A. newsletter, April 19, 1960, Series 2, No. 8.

9. Malcolm G. Taylor, *The Administration of Health Insurance in Canada*, p. 147.

10. Royal Commission on Doctors' & Dentists' Remuneration, 1957/60 Report, p. 160.

11. *Ibid.*, p. 132.

12. *Ibid.*, p. 134.

than in another, total remuneration should correspondingly increase. . . . If the number of hours worked by the average dentist remains constant, or remains within defined limits, the net remuneration to be earned by the average dentist should not alter — except to the extent that the Review Body might consider this desirable on other grounds.”¹²

The individual dentist who organizes his practice more efficiently and who installs improved equipment would benefit for a time; but, eventually, as these methods spread throughout the profession as a whole, the fee schedule would be reviewed to take account of the fact that a unit of treatment no longer consumed as much time as formerly was necessary. Once the schedule was revised, the dentist who had not progressed as fast as the profession in general would be

penalized. The additional earnings of those dentists who led the way in the development of new techniques and in the installing of new equipment might be likened to the rewards received by the innovator. These profits are usually of a temporary nature, but they must be large enough to encourage the development of new methods. Under the Royal Commission's recommendations, the Review Body would have to be aware of the necessity of providing this stimulus.

This report deals with many thought-provoking issues. It shows clearly that with the changing pattern of payment for dental services, the basis upon which the fee schedule is developed must be carefully investigated, for if this matter is not dealt with by the profession itself the right to determine it will be usurped by an outside body.

THE CORPS

Brigadier Baird Attends O.D.A. Convention

Brigadier K. M. Baird, Director General of Dental Services attended the Ontario Dental Association convention in Toronto May 16-18, following which, he inspected R.C.D.C. facilities and personnel in No. 13 Dental Company.

Col. Harris Inspects R.C.D.C. Units In Europe

Colonel H. L. Harris of the Directorate of Dental Services is on an inspection tour of R.C.D.C. units in France and Germany.

Captain Bunston Promoted

Army Headquarters has announced the promotion of Captain H. G. Bunston to the rank of Major on March 15.

Major Bunston was born in Brandon, Manitoba and received his dental education at McGill University, graduating in 1952. He was promoted Captain in June and posted to Valcartier. In 1953 he went to London, Ontario and served there and at R.C.A.F. Station Uplands until July 1958 when he proceeded to No. 35 Field Dental Unit in France where he is presently employed. Major Bunston is married with three children.

Lt. Col. Craigie Presents Clinic

Lt. Col. L. G. Craigie, The R.C.D.C. School, Camp Borden, Ontario presented a clinic

entitled “Amalgams for the General Practitioner” at the Ontario Dental Association in May.

Major Sivell on Course

Major C. J. Sivell recently attended a course in Complete Denture Prosthesis at the U. S. Navy Dental School, Bethesda, Maryland.

Captain B. A. Gaudet Posted to Middle East

Captain B. A. Gaudet of St. Nicholas, P.E.I. and recently employed in H.M.C.S. “Naden”, Esquimalt, B.C. has been posted for a year's tour with the Canadian Dental Detachment of the United Nations Emergency Force in the Middle East.

Captain Davis Returns to Canada

Captain J. S. Davis of Florenceville, N.B. has completed his tour of duty in the Middle East and has returned to Canada for employment in Western Command at Calgary.

Releases

The following officers have been released from the Corps on completion of their tours of duty:

Captain J. L. Bertrand; Captain F. C. Buschlen; Captain L. A. Campbell; Captain S. M. Claman; Captain J. A. Haws; Captain J. A. Pare; Captain H. J. Sandham.

Colonel J. F. Edgecombe, O.B.E.,
E.D., C.D., D.D.S., F.I.C.D. Recently
appointed Honorary Colonel
Commandant of the Royal Canadian
Dental Corps.



R.C.D.C. Flashback

A group of C.D.C. officers on course at Utrecht, Holland
in 1945. Courtesy of Dr. C. S. Lea, Calgary.

BOARD OF CONSULTANTS TO THE RCDC

The following prominent members of the dental profession have accepted appointments to the Board of Consultants to the RCDC:



Consultant in Orthodontics

Dr. John E. Abra, D.D.S. of Winnipeg, has accepted the appointment of consultant in Orthodontics to the R.C.D.C. He graduated from the University of Minnesota Dental School in 1931 and took graduate Training in Orthodontics there in 1932. He has practiced in Winnipeg since, with his practice limited to Orthodontics. He joined the C.D.C. in 1939 and rose to command No. 6 Company in Northwest Europe. Dr. Abra has served in an executive capacity on many organizations both dental and non-dental. He was Chairman of the Orthodontic Section of the C.D.A. in 1955 and Chairman of the Board of Publications (Central Section) of the American Association of Orthodontists in 1959. He was elected to the Board of the Manitoba Dental Association in 1956 and became its president in 1959.

Consultant in Prosthodontics

Dr. Richard J. Godfrey, D.D.S., M.Sc.D., F.A.C.D., Professor of Prosthodontics and Head of Department, Faculty of Dentistry, University of Toronto, has accepted the appointment of consultant in Prosthodontics to the R.C.D.C. Dr. Godfrey graduated from the School of Dentistry, R.C.D.S. of Ontario in 1916 and served as a dental officer in the first World War from 1916-1919. He was appointed to the teaching staff of the University of Toronto in 1919. Dr. Godfrey is a Past President of the Board of Directors of the R.C.D.S. of Ontario and the National Dental Examining Board of Canada. He is also the author of "A Manual of Removable Partial Denture Design".



Consultant in Dental Ethics

Dr. Donald W. Gullett, D.D.S., LL.D., F.A.C.D., F.I.C.D., F.R.C.S., Secretary Canadian Dental Association, has accepted the appointment as consultant in Dental Ethics to the R.C.D.C. Probably the best known dentist in Canada, Dr. Gullett graduated from the University of Toronto in 1923 following service in World War I as a gunner in the 73rd Battery. He practiced at Picton, Ont., from 1923-1940 whereupon he was appointed Registrar Secretary, Royal College of Dental Surgeons of Ontario from 1940-56 and Secretary of the Canadian Dental Association from 1943 to date. The recipient of many honors and awards from local, national and international dental organizations, Dr. Gullett is also President of the American College of Dentists.

Consultant on Dental Research

Dr. Jean-Paul Lussier, B.A., D.D.S., B.Sc., M.S., Ph.D., F.A.C.D., has accepted the appointment as consultant on Dental Research. Dr. Lussier took his B.A. at the University of Montreal in 1938 and received his D.D.S. from the same university in 1942. In addition he did postgraduate work in Physiology at the University of Montreal and in Endocrinology at the University of California. He is Associate Dean and Director of Studies, Faculty of Dental Surgery, University of Montreal, having previously been associated with the Department of Physiology, Faculty of Medicine and having served as Secretary of the Faculty of Dental Surgery. He is a member of many Canadian and American dental organizations and is a Past President of Société Dentaire de Montreal. He is at present a member of the Board of Governors of the College of Dental Surgeons of the Province of Quebec. In addition Dr. Lussier has been the author of many papers in the field of dental research.





Consultant in Oral Diagnosis and Roentgenology

Dr. H. R. MacLean, D.D.S., F.A.C.D., F.I.C.D., Dean of the Faculty of Dentistry, University of Alberta, has accepted the appointment as consultant in Oral Diagnosis and Roentgenology. Following graduation from the Faculty of Dentistry, University of Alberta, in 1928, Dr. MacLean was appointed an instructor in Operative Dentistry in 1935 and became head of the Department of Operative Dentistry in 1949. He did postgraduate work in Oral Roentgenology at the University of California in 1955-56 and was appointed Dean of the Faculty of Dentistry, University of Alberta, in 1958. Dr. MacLean is an active member of the American Academy of Gold Foil Operators and of the American Academy of Oral Roentgenology.

Consultant in Restorative Dentistry

Dr. J. D. McLean, D.D.S., F.I.C.D., F.A.C.D., has accepted the appointment of consultant in Restorative Dentistry. Following graduation from the Faculty of Dentistry, University of Toronto in 1942, Dr. McLean served with the C.D.C. in Canada, England and North-west Europe until 1946. He then did postgraduate work in fixed partial prosthesis at the University of Minnesota whereupon he was appointed part-time lecturer and Associate Professor in this specialty at the University of Alberta. Dr. McLean was appointed Professor of Dentistry at Dalhousie University in 1953 and Dean of the Faculty of Dentistry in 1954. He has been active in the affairs of dental organizations in both Alberta and Nova Scotia and has served in an executive capacity on several committees of the Canadian Dental Association.



Consultant in Periodontia

Dr. J. W. Neilson, B.A., D.D.S., M.S., F.I.C.D., F.A.C.D., has accepted the appointment of Consultant in Periodontia. A native of Saskatoon, Saskatchewan, Dr. Neilson received his B.A. from the University of Saskatchewan in 1939, his D.D.S. from the University of Alberta in 1941 and his Master of Science (Dentistry) in 1946 from the University of Michigan. After serving as Assistant Professor in the Department of Oral Pathology and Periodontology, University of Alberta, he was appointed Associate Professor and Head of the department in 1947. In 1952 Dr. Neilson became Associate Professor, Department of Periodontology, University of Washington, Seattle, Wash., U.S.A., a position he held until appointed Professor and Head of Oral Biology (Periodontology) and Dean of the Faculty of Dentistry, University of Manitoba, in 1957. Dr. Neilson is a Fellow of the International College of Dentists and of the American College of Dentists and a



Diplomate of the American Board of Periodontology. He is an Honorary Consultant in Dentistry to two Winnipeg Hospitals, an Examiner in Oral Medicine on the National Dental Examining Board of Canada and a member of the Associate Committee on Dental Research, National Research Council. Dr. Neilson is an active member of many dental organizations in Canada and the U.S.A., has been a speaker, essayist and clinician at various dental meetings in both countries and is the author of numerous published papers.

Consultant in Oral Surgery

Dr. D. M. Tanner, M.B.E., D.D.S., B.Sc.D., F.I.C.D., has accepted the appointment of Consultant in Oral Surgery. Dr. Tanner graduated from the Faculty of Dentistry, University of Toronto, in 1931 and received a Bachelor of Science (Dent) from the same university in 1933. He enlisted in the C.D.C. in 1940 and saw service overseas with No. 15 Cdn. General Hospital maxillofacial team. Dr. Tanner was awarded the M.B.E. in 1945 for his services in World War II. Following a period of private practice he accepted an appointment as Oral Surgeon with the Dept. of Veterans Affairs at Sunnybrook Hospital in 1958. In addition he is an Associate Professor of the Faculty of Dentistry, University of Toronto, Dental Surgeon-in-Chief, Toronto General Hospital, Consultant in Oral Surgery, Hospital for Sick Children and Honorary Consultant in oral surgery Princess Margaret Hospital. Dr. Tanner is a past president of the Canadian Society of Oral Surgeons and Registrar of the Canadian section International College of Dentists.



THE PROVINCES

ALBERTA

Edmonton and District Dental Society

On May 10th the new executive took office, and Dr. Haryett handed over the gavel to Dr. Bruce MacKenzie, the new president.

Other members of the executive are:

Dr. Ted Lindscoog, President-elect; Dr. J. Little, Secretary; Dr. G. Clarke, Treasurer; Dr. R. Mullen, Social Convener; Dr. J. Harms, Public Relations; Dr. W. Janzen, Director; Dr. N. Basaraba, Director.

In the afternoon the fourth year dental students presented twelve excellent table clinics. There was a good turnout to both afternoon and evening meetings.

Everyone is looking forward to a good summer of golf meets. Enclosed is a photo of Dr. Haryett turning over the gavel to Dr. MacKenzie. J. R. H.

Central Alberta Dental Society News

Final meeting of the 1959-60 year brought election of officers for the forthcoming term. The slate is as follows: President, Dr. Al Goodman; Vice-pres., Dr. Henry Shimbasi; Sec.-treas., Dr. Al White; Directors, Drs. L. Oatway, M. Boyce, C. Isbill, F. Pedlar.

Following the business meeting, Dr. H. R. MacLean, Dean of Dentistry, U. of A., gave a series of slides with commentary on X-ray technique and interpretation.

After the scientific part of the meeting was over, Dr. MacLean reported on the progress being made in the expansion of the facilities in the faculty. By October of this year, there will be 59,000 square feet of area available, compared to the present 12,000. This five-fold increase makes possible the addition of many new features, including a room for cephalometric studies, an eight unit endodontia-oral surgery clinic, a special 25-unit Paedo-Ortho section, a practice-privilege area for full-time staff members, a research area,

equipment overhaul and repair section, and a lounge for the dental students, with lockers and shower rooms.

It is certain that every dental graduate from Alberta will be vitally interested in, and proud of the steady forward progress of our Dental School. Perhaps it will not be too long before we can undertake post-graduate studies right here, instead of travelling half a continent for specialized studies.

D. C. D.

BRITISH COLUMBIA

Vancouver and District Dental Society

"Taxes Here and Hereafter" was the subject of a panel discussion at the last meeting on May 3 when the non-dental speakers, Archie Russell, C.A., and Wm. Carlyle, barrister, dealt with estate matters and income tax problems which the dentist might encounter.

A barrage of interesting questions were asked at the end of the two half-hour addresses, and it was necessary to curtail them in order to transact the important business of the year's final meeting.

The wide range of the society's activities was manifested by the numerous reports that were given: society officers, Council, sick and visiting committee, M.S.A., golf, building committee, office management, publications, local arrangements, publicity, post-payment plan, fluoridation, assistants' certification, hospital and scholarship committee.

The membership committee reported that out of a potential 345, there were 315 paid-up members, 91% of the possible membership.

The study club chairman reported that twelve study clubs were active, most of them having been in existence for several years. In five years 117 new members have been assimilated and it is now essential to establish

a progressive program. It was recommended that there should be study clubs in other fields such as economics and hypnosis.

The new officers who are now in charge of the affairs of the society are:

President, Dr. J. H. Merrell; President-elect, Dr. C. W. Gardner; Past President, Dr. O. F. Wright; Secretary-treasurer, Dr. A. E. Swanson; Directors, Drs. N. C. Ferguson, K. E. Murchie, Patrick Boyle and W. M. Joiner.

During the evening Dr. Orville Wright was the recipient of a silver cigarette box in token of appreciation for a job well done in the presidential office. D. H. M.



Dr. Haryett turns over gavel to Dr. MacKenzie, the new president of the Edmonton and District Dental Society.

(Photo by Ernst and Goertz)

CAPE BRETON

Friends of Dr. and Mrs. Howard W. Burchell, Community Lodge, Sydney, N.S., will be pleased to hear that they celebrated their 63rd wedding anniversary on April 28th.

Dr. Burchell is probably the oldest dentist in the province of Nova Scotia. He graduated from Penn College of Dental Surgeons in 1894. Being too young to practice in our province at that time he consequently spent about eight months in the office of Dr. Hibbert Woodbury, then dean of what is now known as Dalhousie Dental College. Many times he has told me of the great help he received from Drs. Hibbert and Frank Woodbury and of their many kindnesses. Here he put the finishing touches to his gold-foil technique. Only a few weeks ago Dr. Bill Buchanan showed me one in his own mouth, inserted by Dr. Burchell forty-six years ago.

Dr. Burchell spent practically all his years practising in North Sydney. His professional skill brought him patients from all parts of Cape Breton Island and also Newfoundland. He was very active in all town affairs, and is a charter member of the North Sydney Rotary Club. As an elder in St. Matthews' Church he served faithfully and well, and is remembered for his many kind deeds.

Following his retirement in 1938, he was coaxed into resuming dental practice in Sydney replacing one of the men in the CDC. At that time there were only three civilian dentists left in Sydney, so it is easy to realize the great help he was to the citizens of this area. Up to the last couple of years Dr. Burchell was very active in the Cape Breton Dental Society. He arranged all the meetings, and took care of many details, including always a generous donation to the overhead.

Friends throughout the province, I am sure, tender their congratulations and express the hope that he and Mrs. Burchell may enjoy many more pleasant years together.

E. Mac.

NEW BRUNSWICK

The Moncton Dental Society gave a dinner at the Brunswick Hotel on Saturday, May 14, in honor of one of its outstanding members, Dr. A. J. Cormier. Dr. Cormier has just completed fifty years of practice in the province. He started practice in Woodstock, N.B., after graduating from Baltimore University in 1910. He later moved to Moncton, N.B. Dr. Cormier's family is unique in that there are five in the immediate family who are dentists. His brother, Oliver, who practiced in Edmundston, is now retired and lives in Shediac. His three sons are all practising in the province. Doctors George and Paul are together in Moncton. Doctor Leo is practising in Saint John. Dr. A. J. Cormier is a past president of the New Brunswick Dental Society. He has the distinction of holding an honorary Doctor of Science degree from Saint

Joseph's College and is a Fellow of the American College of Dentists. The Moncton Society presented Dr. Cormier and his wife with two reclining lawn chairs. Dr. Cormier was also given a life membership in the New Brunswick Dental Society. J. F. E.

NOVA SCOTIA

Six Dentists Take Course

Six Nova Scotian dentists attended a postgraduate course in complete denture prosthodontics, offered by the faculty of dentistry, Dalhousie University. The week long session was held at the Dalhousie Dental School.

The instructor was Dr. K. M. Kerr, professor of prosthodontics, assisted by other members of the prosthetic staff.

This was the second postgraduate course to be offered this year. Earlier in March a complete course on oral surgery was given. Five of the six dentists were graduates of the Dalhousie Dental School.

Dean Bagnall Honored

It was expected that Dr. J. S. Bagnall, Dean Emeritus of the Faculty of Dentistry of Dalhousie, would be honored by the University of Toronto with a degree of Doctor of Laws, honoris causa in recognition of the signal contribution he has made to the profession of dentistry. However at the eleventh hour ill-health prevented him from being present and receiving his degree. Fortunately Dr. Bagnall was awarded this degree by Dalhousie in its spring convocation of 1960.

Postgraduate Courses

Following were the candidates:
Complete Denture Prosthodontics:

Lt.-Col. L. C. Cameron, Windsor Junction, Dal/32.

Dr. J. W. Carso, Bedford, Dal/57.

Dr. M. R. Jackson, North Sydney, Dal/44.

Dr. L. B. Layton, Annapolis Royal, Dal/36.

Dr. R. T. Parker, Sydney, McGill/37.

G. B. Richmond, Wolfville, Dal/16.

Oral Surgery:

Dr. S. J. Baxter, Amherst, Dal/51.

Dr. L. L. Buffett, Glace Bay, Dal/29.

Dr. J. M. Darcy, St. John's, Nfld., Dal/48.

Dr. C. B. MacDiarmid, Moncton, Dal/54.

Dr. R. N. D. Rice, Petitcodiac, N.B., Dal/44.

Dr. D. A. Stewart, Summerside, Dal/54.

Dental School Staff Increased

We welcome Dr. Findlay to the full-time staff of the dental faculty at Dalhousie. Dr. Findlay is qualified as a specialist in periodontics.

Drs. Sprachlin and Eisner have been appointed to the part-time staff in the department of orthodontics.

Attend Meeting

Drs. H. M. Eaton, McGuigan and MacLean attended the meeting of the American Association of Dental Schools in Chicago in March. Dr. Eaton also attended a workshop on Radiology at the University of Illinois.

J. E. M.

ONTARIO

O.D.A. 1960 Convention

The 93rd O.D.A. Annual convention held in Toronto, May 15th - 18th was again a resounding success.

A well-rounded programme, both social and educational was enjoyed by the members, their wives and the dental nurses and assistants.

The convention opened with a delightful musicale on Sunday evening. Performances were presented by a variety of the finest Canadian artistes consisting of pianist William Aide, Soprano, Sheila Piercey, Baritone, Harry Mossfield, Saxophonist, Paul Brodie and Violinist Vera Tarnowsky.

Luncheon speakers were Mr. G. Alvan Gamble who spoke on "Pitfalls in the Path of Peace" and Dean Hames D. McLean on "Leadership". Dean F. N. Hughes of the College of Pharmacy was guest speaker at the Dental Public Health Breakfast. His subject was "Professional Co-operation in Dental Public Health".

The essayists and clinicians were very well received. Dr. E. V. Zegarelli of New York presented an essay on "The Bleeding and Hemorrhagic Diseases of the Mouth" and Dr. Melvin A. Noonan of Birmingham, Michigan on "Injuries to Young Permanent Incisors".

The success of the table clinics was manifested by the large numbers milling around the clinicians, picking up many practical tips to take back to their offices.

The enthusiastic crowd showed a wonderful spirit at the convention dance. Something new was added in a fabulous buffet dinner

which was presented beautifully and tasted even better — and all you could eat!

Congratulations to Convention Chairman, Dr. Ed White and his excellent Committee.

At this Annual Meeting of The Ontario Dental Association, the following members were elected to the Board of Governors and the various Committees:

Officers of the Association — President, Dr. K. M. Phillips, Welland; Immediate Past President, Dr. E. T. Guest, Toronto; President-Elect, Dr. E. A. White, Toronto; Archivist-Historian, Dr. F. H. Shepherd, Toronto; Secretary-Treasurer, Mrs. W. C. Durham, Toronto.

Board of Governors — District #1, Dr. E. E. Johns, Kingston; District #2, Dr. W. W. Philp, Toronto, Dr. M. G. Boyes, Toronto; District #3, Dr. G. K. Chapman, Fort Erie; District #4, Dr. J. B. Taylor, London; District #5, Dr. J. R. Jeffery, Kirkland Lake; District #6, Dr. L. E. Hastings, Fort William.

Dental Public Health Committee — Dr. R. R. Butler, Dr. D. L. Rife, Dr. R. O. Fisk, Dr. M. Buchman, Dr. D. J. E. Mitchell, Dr. M. Jackson, Dr. K. Davey, Dr. B. Burns, Dr. K. F. Pownall.

Benevolence Committee — Dr. R. S. Wool-latt, Dr. W. R. Jackson, Dr. R. G. Hyde.

M. B.

Hamilton and District Dental Association

The new officers of the Hamilton Dental Association are:

President, Dr. W. A. Banting; Past President, Dr. R. H. Finlayson; Vice President, Dr. L. J. Easter; Permanent Corresponding Secty., Dr. G. M. Morrow; Recording Secty., Dr. S. Rosen; Treasurer, Dr. Wm. E. Kennedy; Chairman Programme Committee, Dr. D. G. Coburn.

S. R.

QUEBEC

Mount Royal Dental Society

A very fine dinner-dance at the Queen Elizabeth Hotel was the setting for the concluding program of the Mount Royal Dental Society for the year 1959-60. The highlights of the evening, which was so ably planned by Dr. Mervyn Gornitsky, chairman of the arrangements committee, were the presentation of seven Life Memberships by Dr. Bernard Hyams, himself a life member and a very active one, and the installation of officers

and executive for the season 1960-61 by a recent past president, Dr. Sydney Silver.

Those receiving Life Memberships were: Dr. S. Bernstein, Dr. M. Goldenberg, Dr. S. Harris, Dr. H. Israel, Dr. D. Muhlstock, Dr. M. Levitt, and Dr. J. Pollack. Several of these gentlemen expressed their deep feeling of thanks at having been able to carry on their dental practice for thirty-five years, and they wished the younger members every success in the years that lie ahead.

Following these presentations there took place the transfer of officers, with the new officers and executive members being installed as follows:

President: Dr. P. Gitnick; Vice-President: Dr. C. Baer; Secretary: Dr. H. Rosen; Treasurer: Dr. D. Solomon; Assistant Secretary: Dr. C. Solomon; Historian-Archivist: Dr. M. Toker.

Members of the executive: Dr. L. Druckman, Dr. M. Gornitsky, Dr. H. Levitt, Dr. H. Scherzer, Dr. B. Sedlezky, Dr. G. Silver, Dr. D. Zacharin, Dr. D. Steinberg (ex-officio).

Advisory Committee: (elected representatives): Dr. M. Goldenberg, Dr. D. Muhlstock, Dr. R. Wiener.

A gift was then presented as a token of appreciation to the retiring president, Dr. D. Steinberg, by the previous president, Dr. A. Collie.

After the business meeting there was spirited dancing to the music of Joey Kane and his orchestra, which brought a most successful evening to a pleasant conclusion.

C. S.

SASKATCHEWAN

Biennial Convention

The College of Dental Surgeons of Saskatchewan held their Biennial Convention in Moose Jaw, May 22-23-24.

The guest clinician for this occasion was Dr. Hollis A. Askey of Lincoln, Nebraska. Dr. Askey holds many very important offices in Dentistry and he proved to be a very capable and amiable lecturer. He and his charming wife were endeared to all in attendance.

His subjects were the Dentist, the Office and the Listening chair. He presented a great deal of valuable information for the successful practice of Dentistry.

The Moose Jaw Dental Society proved to be wonderful hosts, with never a dull moment. The entire meeting gave evidence of thorough organization.

L. D. H.

GENERAL NEWS

Dental Nurses School Begun in England; First Class in October

A school for training young women as "dental nurses" to provide treatment for children will be opened in London, England, in October, the Royal Society of Health Journal recently announced. A free two-year course will cover simple fillings, extraction of deciduous teeth, cleaning, scaling and polishing of teeth. The magazine went on to say that the students, upon completion of training, are expected to work in the local health services and the hospital services. They will work under the direction of dental surgeons who will examine the patients and prescribe treatment. The training scheme, initiated by the General Dental Council, will begin with 60 students.

Registry of Dental Faculty and Research Personnel Established

The establishment of a Registry of Dental Faculty and Research Personnel has just been announced by Dr. Raymond J. Nagle, President of the American Association of Dental Schools. The Registry, administered by the Central Office of the Association at 840 North Lake Shore Drive, Chicago, is designed to serve as a "clearing house" for dental education institutions and persons interested in teaching or research positions in the dental schools.

Qualified persons interested in obtaining a teaching or research appointment in dental education may file an application with the Association's office in Chicago. Dental schools and dental research institutions have been asked to report staff vacancies to the Central Office. The Registry will match applications on file with reported vacancies, and acquaint the schools with those persons who seem to have the necessary qualifications. Mr. Reginald H. Sullens, Secretary of the Association, emphasized that the Registry is not a placement bureau, but pointed out that the Association felt that it could help in the more efficient distribution of dental teachers and researchers by "matching" jobs and applicants.

Information about the Registry program and copies of the application form can be secured by writing the Central Office, American Association of Dental Schools, 840 North Lake Shore Drive, Chicago, Illinois.

Dr. Denton to Write History of Dentistry

Dr. George B. Denton, research consultant for ADA Bureau of Library & Indexing Service, has been requested by the Board of Trustees to prepare a general history of dentistry.

Conference Scheduled for Vienna

The 16th annual Congress of the International Society for Periodontal Research (ARPA Internationale) will be held September 15-20 in Vienna, Austria. The principal topic of the meeting will be "Dentures and Periodontal Diseases." Entertainment highlights of the meeting will be attendance at a performance of the Vienna State Opera and various city excursions. Any dentist interested in attending or in presenting a clinic or paper can write to ARPA Kongress-Sekretariat, Wien, Wiehburggasse 10, 1/50, Austria.

ADA Staff Changes Made

Staff changes within the Association's Bureau of Public Information were announced this week by Sec. Harold Hillenbrand. Peter C. Goulding, presently secretary of the Council on Scientific Session of ADA, will assume the post of Director of the Bureau of Public Information on May 1. William A. Logan, current director, has resigned his post to undertake direction of public relations activities of the Warner-Chilcott Laboratories Division of Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. Also, Eric M. Bishop has joined the Association staff as an assistant director of the Bureau of Public Information. A member of the ADA for over nine years, Goulding began his career with the Association in the Bureau of Public Information. In addition to his present post, Goulding has also been secretary of the Centennial Staff Committee.

Mrs. J. P. Hunt Retires From A.D.A. Post

Chicago, Ill. — Thirty-three years of service will end June 30 when Mrs. Josephine P. Hunt, 7319 North Wolcott, retires as associate librarian of the American Dental Association.

When Mrs. Hunt began her tenure with the American Dental Association, Calvin Coolidge was President of the country, Babe Ruth

was about to set a new home-run record and Chicago's mayor was the flamboyant "Big Bill" Thompson who had lately threatened to punch the King of England in the nose. In that year, the ADA staff numbered ten. Today, 175 people are employed by this national organization of 95,000 dentists.

Colonel Bernier Is Named Army Dental Chief

Col. Joseph L. Bernier, D.C., U.S.A., has been named by President Eisenhower to two-star rank as chief of the Army Dental Corps. He will succeed Maj. Gen. James M. Epperly who retires July 30. Col. Bernier, chief of the dental and oral pathology division of the Armed Forces Institute of Pathology for the past ten years, is the first member of the Army Dental Corps to become a certified oral pathologist. He entered the Army Dental Corps in 1934 after graduation from the University of Illinois College of Dentistry.

Union's Free-Choice Plan Called Success

The Chicago union which six months ago abandoned a closed panel system of medical care for a program which allows its members free choice of physicians, has reported the new program is a success.

Free choice of physician has resulted in increased utilization of physicians' services, reported Dr. Charles E. Thompson, medical consultant for the Chicago Truck Drivers, Chauffeurs and Helpers Union (Independent). The union reported that its new program also is a financial success.

The union — 9,500 members, 35,000 dependents — announced it would abandon its closed panel clinics on July 1 of last year (The AMA News, March 23, 1959). A gradual changeover resulted in the two systems running simultaneously for the last six months of 1959.

Swedish Dentists Plan Centennial

The Swedish Dental Society observes its centennial August 17-20 in Stockholm. Prominent researchers and clinicians from all over the world are expected to participate in a four-day scientific programme featuring lectures, symposia, panel discussions, films and demonstrations. There will be an exhibition of objects and publications collected during the past 100 years by the Swedish group which demonstrates scientific and technical progress in dentistry. Further information about the centennial congress may be obtained from—Secretary, Swedish Dental Society, Nybrogatan 53, Stockholm.

"Prize Dr. h.c. René Jaccard"

The "Prize Dr. h.c. René Jaccard" will be attributed for the third time during the XVI. Congress of The "ARPA Internationale" in Vienna (September 17-22, 1960). The conditions of candidature for the prize are as follows:

a) Any original scientific work concerning periodontal disease published or performed between 1958 and 1960 can be sent in.

b) It is not necessary for the author to be a member of the ARPA.

The proposed papers for candidature shall be sent, by registered post, in six exemplars, to the president of the "ARPA Internationale" (Prof. A. J. Held, Institut de médecine dentaire, 30 rue Lombard, Geneva, Switzerland) at latest the 15th of May 1960.

The prize (or prizes) shall be delivered during the XVI. Congress of the "ARPA Internationale", in Vienna. The charter of the "Prize Dr. h.c. René Jaccard" is at the disposal of any person interested at the General Secretary's Office: Sir J. Matthey, 2 rue Bartholoni, Geneva, Switzerland.

Telephone Data

Montreal pharmaceutical firm provides detailed medical information on prescription drugs via telephone for about 2,000 English-speaking physicians in eastern Canada. Doctors need only dial an unlisted, long-distance telephone number for needed information.



"NOBODY RECOMMENDED YOU — I'M HERE BECAUSE I STILL OWE MY REGULAR DENTIST!"

IN MEMORIAM

Cyril LaVerne Pattison — Dr. Cyril LaVerne Pattison of Toronto died May 20th. He was 69.

He was born in Brantford where he received his early education and graduated from the Royal College of Dental Surgeons of Ontario in 1914. He practised in Richmond Hill 1914-20 and in Toronto 1920-56 when he retired. He was a charter member of Reasmea Club and member of Guy Lodge at A.M. No. 289.

Surviving are his wife Zella McLeod; sons George and Beatty and a sister Doris.

P. Onil Dionne — Dr. P. Onil Dionne of Magog, Que., died on April 28th. He was 60.

Surviving are his widow, Marie-Louise Beique; his son, Ohil; two brothers, Rene and Antonio, and four sisters, Mrs. Irene Prefontaine, Mrs. Armand Laberge, Mrs. Austin Workman, and Mlle. Eveline Dionne.

Leon Archambault — Dr. Leon Archambault, long-time Montreal dentist, died in Montreal May 12th after a long illness. He was 76.

He was the son of the late Dr. and Mrs. Gaspard Archambault, was born in Montreal and educated at College Ste. Marie, the University of Montreal and the University of Chicago. He graduated in dentistry from University of Montreal in 1906 and practised in Montreal for more than 50 years.

He is survived by his wife, the former Jeanne Grenier; two sons, Group Capt. Jean G. and Pierre of Montreal; three daughters, Mrs. D. Lindsay, of Havana, Mrs. R. Wide-man of East Aurora, N.Y., and Mrs. R. Doucet, of Montreal; two brothers, Judge Joseph Archambault and the Rev. J. Papin Archambault; and 11 grandchildren. He was also a brother of the late Dr. Gustave Archambault and Gaspard Archambault.

Samuel Eckel — Dr. Samuel Eckel of Waterloo, Ontario died May 9th at his home after a brief illness. He was 83.

Born in Carrick Township, Bruce Co., he taught school there for several years before enrolling at the University of Toronto. He graduated in dentistry from the Royal College of Dental Surgeons of Ontario in 1903

and studied a year at the Chicago Dental College before beginning his practise in 1904.

His parents were the late Jacob Eckel and Margaret Hahn. Dr. Eckel was a member of the First United Church, Waterloo.

Survivors include three brothers, George of Vancouver, Simon of Chilliwack, B.C., Edward of Galt, and one sister, Mrs. J. L. (Carrie) Taylor of Clifford. Several brothers and sisters predeceased him.

Gregoire Ernest Bourassa — Dr. Gregoire Ernest Bourassa of 138 King Street, Sturgeon Falls died as a result of accidental drowning at Lake Shakwa, Espanola, June 2nd, 1960. He was 32.

He was born in Sturgeon Falls, Ontario and graduated from the University of Toronto 1959. Since graduation he practised at Espanola General Hospital, Espanola, Ontario.

He is survived by his wife, the former Jacqueline Moranville; a daughter Lise 2½ years, son Marc 1 year; and parents Mr. & Mrs. R. H. Bourassa of Sturgeon Falls.

Duncan D. McIntosh — Dr. Duncan D McIntosh of Alexandria, Ontario died on May 14th following a heart attack a short time before he was to give his daughter in marriage. He was 63.

Dr. McIntosh was born at Greenfield in 1897 and received his early education at Alexandria High School and St. Michael's College, Toronto. He graduated from the R.C.D.S. of Ontario in 1921 and practised for one year at Finch before moving to Alexandria where he had practised for more than 35 years.

He was active in town affairs and served on the Town Council and the Public Utilities Commission and occupied the mayor's chair from 1941 to 1943. A member of the Alexandria lacrosse teams, Dr. McIntosh always retained his interest in athletics and played a prominent part in fostering sport at the local level. He was also very active in the field of politics.

Dr. McIntosh is survived by his widow, Christena, five daughters, Sister Mary Christine (Penelope); Patricia; Jean; Anne and Mary; one brother, John, and three sisters, Mrs. G. E. Rice, and Misses Violet and Anne McIntosh.

NOTICE TO CONTRIBUTORS

COMMUNICATIONS:

Original manuscripts and correspondence should be sent to—Editor, Journal of the Canadian Dental Association, 234 St. George St., Toronto 5, Ontario, Canada.

MANUSCRIPTS:

Original articles are accepted for publication with the understanding that they are contributed solely to the C.D.A. Journal and that they have not been published elsewhere and will not be reprinted without permission. All manuscripts are subject to editorial modification. Neither the editor nor the publishers accept responsibility for the views and statements of authors expressed in their communications.

Manuscripts should be double or triple spaced typewritten on 8½" x 11" paper using one side only, leaving wide margins. The original should be sent to the editor and a copy retained by the author. Each page should be numbered. The author's name and abbreviated title of the article should appear at the top of each manuscript page. The title should appear at the top of the first page with the main words capitalized. The author's name and degree(s) should be two lines below and if the author wishes to give his affiliations, these should be listed as a footnote and referred to by an asterisk after his name and degree(s).

BIBLIOGRAPHY OR REFERENCE LIST:

The bibliography or reference list should appear on a separate page. It is preferable to

mention only the authors whose material has been used and to designate the reference within the text by means of a superior numeral, e.g. earlier findings by Smith¹ revealed that References should be arranged numerically in order of their appearance in the text in preference to alphabetical order. References should be arranged as follows: citation number, last name of the author, first name and initial, title of the article, name of the journal or text with volume, pages, month and year.

ILLUSTRATIONS:

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ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1960	Ottawa, Ontario	Sept. 25th-28th
1961	Saskatoon, Saskatchewan	June 4th-7th
1962	Vancouver, British Columbia	June 3rd-6th
1963	Toronto, Ontario	May 19th-22nd
1967	Toronto, Ontario	May

(Centennial Celebration
of Dentistry in Canada)

FUTURE EVENTS

Date	Function	Location	Officer	Address
Aug. 14-18, 1960	16th Australian Dental Congress	Sydney, New South Wales, Australia	Dr. D. Freeman, Hon. Sec.	185 Elizabeth St., Sydney, New South Wales, Australia
Sept. 9-10, 1960	Northern Ontario Dental Ass'n Convention	Coulson Hotel, Sudbury, Ont.	Dr. G. P. Copeland	47 Davidson St., Sudbury, Ontario
Oct. 8-12, 1960	17th Annual Meeting Institute of Oral Biology	Palm Springs, California	Dr. H. Becks	2240 Channing Way, Berkeley 4, Calif.
Oct. 14-16, 1960	American Society of Dentistry for Children	Ambassador Hotel, Los Angeles, Calif.	National Office American Society of Dentistry for Children	c/o Dr. C. F. Tuma, 13201 Miles Ave. Cleveland 5, Ohio
Oct. 14 & 15, 1960	American Academy of Gold Foil Operators	Los Angeles, Calif.	Dr. C. C. Latham, Sec.-Treas.	P.O. Box 266, Coronado 18, Calif.
Feb. 3, 1961	Interim Meeting of American Academy of Gold Foil Operators	Loyola University School of Dentistry, Chicago, Ill.	Dr. C. C. Latham, Sec.-Treas.	P.O. Box 266, Coronado 18, Calif.
Dec. 5-9, 1960	36 Annual Greater N.Y. Dental Meeting	Statler Hilton, New York City.	Mrs. M. Purdy	Room 106A, Hotel Statler Hilton, New York 1, N.Y.

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JOURNAL

Hygiène alimentaire et santé dentaire*

Par JEAN LAMBERT, D.D.S., M.R.S.H., Montréal

L'homme a longtemps cherché à travers les âges un moyen de prévenir la carie dentaire. Si l'on en juge par l'ampleur actuelle du problème et par les statistiques, il faut avouer que les recherches n'ont eu à date que des résultats bien aléatoires, sinon nuls. Toutefois, le développement de la science de la nutrition ouvre un nouveau champ d'action aux chercheurs: un nouvel espoir vient de naître en faveur de la santé dentaire.

Depuis une cinquantaine d'années, surtout depuis la découverte des vitamines, vers 1912, la science de la nutrition a évolué à un rythme assez rapide pour que chacun, dans sa sphère, y cherche une panacée à ses problèmes. Le dentiste a voulu lui aussi s'y intéresser pour en retirer certains profits: la relation hygiène alimentaire et santé dentaire a été vite établie et prouvée. Il suffit de rappeler les noms des Drs Jay, Davis, Price, Mallenby

et autres, qui, après plusieurs expériences sur les animaux et sur les humains, en ont accepté les principes. Il serait trop long de rapporter leurs témoignages d'ailleurs très bien résumés par celui du chef de la Division de la Nutrition de la Province qui écrivait "L'état des dents est irrévocablement affecté en bien ou en mal par le régime alimentaire de la mère durant la grossesse, par celui de l'enfant jusque vers 15 ou 16 ans, et j'ajouterai également par celui de l'adulte"⁽¹⁾.

Si une alimentation rationnelle, équilibrée et complète est un facteur de base pour la formation, le développement et l'entretien de l'organisme tout entier, pourquoi ne le serait-elle pas pour une de ses parties constituantes, à savoir les dents, qui, comme les tissus de l'organisme, sont de même origine, soit conjonctive et épithéliale, et qui ont besoin des mêmes matériaux de construction et de réparation.

* Séminar présenté à l'Ecole d'Hygiène de l'Université de Montréal, le 28 avril 1960.

Pour mieux évaluer l'influence de l'hygiène alimentaire sur la santé dentaire, rappelons-nous que la carie dentaire se comporte comme l'infection microbienne dans l'organisme: la résistance à l'infection est proportionnelle au degré de la force et de la bonne élaboration de l'organe. Il en est de même pour la dent: son degré de susceptibilité à la carie est en raison directe de sa résistance acquise durant les périodes de formation, de développement et de calcification.

Une dent peut se former, se développer et se calcifier en s'appropriant tous les matériaux nécessaires au processus normal de son évolution complète et la source de ces matériaux se trouve dans l'alimentation.

"L'alimentation, écrivait le Dr Durand, est la clef de voûte de tout traitement préventif de la carie dentaire"⁽²⁾.

Une vue d'ensemble du rôle de l'hygiène alimentaire sur la santé dentaire, s'établit en étudiant les trois phases de la vie de la dent⁽³⁾:

a) La phase de formation, c'est-à-dire celle où la dent passe de l'état labile à l'état calcifié.

b) La phase de maturation ou de la véritable poussée des dents avec le stage terminal de la calcification.

c) La phase d'entretien, où la dent remplit ses fonctions de mastication.

Il est évident que ces trois phases de la vie de la dent sont importantes, car elles sont interdépendantes et tout facteur qui briserait un chaînon de ce cycle, s'attaquerait par le fait même à la vie de la dent. La première de ces phases est la plus importante: à ce stage, la dent acquiert la plus grande proportion de son degré de résistance. On peut comparer la dent à un édifice en construction: si les assises de l'édifice ne sont pas faites de matériaux solides et résistants, l'édifice pourra avoir une belle apparence mais sera certes vulnérable et pour le moins fragile aux agents extérieurs de destruction.

Le processus de formation de la dent permet de mieux comprendre le rôle qu'y joue l'alimentation.

La dent commence à se former vers le deuxième mois de la vie intra-utérine, la plupart des auteurs disent vers le 40ème jour.

A ce stage, la muqueuse qui est à l'état labile est formée de différentes couches appelées: feuilletée cornée, hyaline, épineuse et la plus profonde, la couche de Malpighi.

Les cellules de Malpighi se développent en s'enfonçant dans le chorion pour former la lame dentaire qui donne elle-même naissance au bourgeon dentaire; celui-ci a deux enveloppes: l'une externe, formée d'adamantoblastes et l'autre interne, formée d'odontoblastes. Le rôle respectif de ces cellules est de former l'émail et la dentine, puis, à mesure que les matériaux s'accumulent, la dent suit son évolution normale pour atteindre le stage de la calcification complète, soit vers 4 ans après son éruption.

Pendant cette phase de formation, l'enfant joue le rôle d'un parasite, c'est-à-dire qu'il ne peut rien faire par lui-même. Il faut que tout ce dont il a besoin pour former ses dents lui vienne d'une source étrangère, sa mère.

La mère doit donc, durant la grossesse, adapter son régime alimentaire aux besoins supplémentaires de son organisme, non seulement pour maintenir l'équilibre de ses fonctions organiques, mais aussi pour l'intégrité de l'être qu'elle porte dans son sein: la nécessité d'un supplément de matériaux de construction.

Ces éléments, pour former de bonnes dents, sont les mêmes que ceux qui président à la formation de l'organisme tout entier. On note toutefois d'une manière toute spéciale, les protéines qui constituent l'élément principal de toute cellule vivante et sur lesquelles iront se fixer les sels minéraux. On recommande pour la mère enceinte une augmentation au régime normal habituel de 25 gr. de protéines.

Il faut de plus des vitamines dont les principales pour la structure dentaire sont:

La vitamine A qui exerce son action sur les tissus épithéliaux; on la retrouve surtout dans les oeufs, le foie des animaux, les feuilles vertes des plantes.

La dose supplémentaire pour la femme enceinte est de 2000 U.I.

La vitamine B agit sur certaines phases intermédiaires du métabolisme et on la retrouve surtout dans les céréales, le pain, le lait.

La vitamine C est nécessaire pour conserver au tissu conjonctif sa qualité de cohésion et on la retrouve surtout dans les fruits.

La vitamine D est indispensable au métabolisme complet des sels de calcium et de phosphore; il est très difficile de l'obtenir par les rayons du soleil, à cause de la pollution de l'air; alors il faut y suppléer par l'huile de foie de poisson à raison de 400 U.I. par jour.

Il faut de plus, pour former des dents solides, des sels minéraux dont les principaux sont le calcium, le phosphore, le fluor, le cuivre et le magnésium et quelques autres, qui, en se fixant sur les protéines, déterminent l'apatite, c'est-à-dire des cristaux dont l'agglomération forme les tissus osseux calcifiés.

Si tous ces éléments sont nécessaires à la formation de bonnes dents, on ne doit certes pas sous-estimer la valeur de l'hygiène alimentaire chez la mère enceinte.

Cette théorie ne reçoit pas l'approbation de tous et certains auteurs prétendent que la mère enceinte a une réserve suffisante de matériaux qui permettront à l'enfant de se former de bonnes dents: la question est discutable.

De plus, lorsque les dents font leur éruption, la santé dentaire n'est pas complètement acquise et immuable; les fondations sont posées durant la vie intra-utérine, mais le travail de construction se continue et l'alimentation est appelée à élaborer son travail bienfaisant durant la période de maturation.

À partir de son éruption, la dent subit un changement partiel dans son milieu. La couronne de la dent est en contact avec

la salive, les parcelles d'aliments, les microorganismes: la dent se trouve en partie en milieu externe et en partie interne; l'hygiène alimentaire aura une double fonction: 1) apporter les substances nécessaires à la phase terminale de calcification de la dent et 2) servir de prévention et de défense contre les attaques des agents extérieurs.

Les éléments nécessaires à la dent durant cette phase sont les mêmes que ceux de la période de formation, quoique les sels minéraux y prennent le rôle de vedette par leur fixation sur les protéines. Remarquons que le calcium, contrairement à ce qui se passe dans le système osseux, est fixé dans l'émail de la dent et ne peut pas retourner dans la voie sanguine.

Durant cette phase de maturation, la principale maladie de la dent est la carie.

Dans une conférence qu'il donnait à la Société de Stomatologie, en 1920, le Dr Freyia définissait la carie comme une altération de la dent sous l'influence du milieu chimico-microbien.⁽⁴⁾ Et cette théorie rejoint celle de Miller qui l'attribue à l'action des bactéries acidophiles sur certains aliments pour former des acides qui, à leur tour, attaquent l'émail des dents.

La bouche devient donc un laboratoire où s'opèrent des réactions chimiques dès l'entrée des aliments. Les bactéries agissent sur les hydrates de carbone pour former des acides lactique, citrique et pyruvique. L'action de ces acides sur les dents est très rapide, soit de trois à vingt minutes après leur formation, surtout si leur action est activée par un Ph salivaire acide.

Comme corollaire, il faut que le régime alimentaire soit tel que l'équilibre acidité-alcalinité ne soit pas brisé. Ajoutons que certaines mesures hygiéniques sont ici nécessaires pour compléter le travail de l'hygiène alimentaire, comme, par exemple, le brossage des dents et le rinçage de la bouche.

Mais il y a un autre élément nécessaire à la dent: le fluor.

Le fluor est un halogène qui forme dans l'émail de la dent une fluorapatite qui le rend très résistant à la carie dentaire au point de réduire l'incidence de la carie de 60 à 65%. Mais, on ne le trouve qu'en quantité très minime et insuffisante dans l'alimentation; c'est pourquoi il faut l'ajouter à l'eau de consommation dans la proportion de 1 partie par million, ordinairement sous forme de fluorure de sodium.

Il y a actuellement dans la Province de Québec une dizaine de municipalités qui ont adopté cette mesure de prévention de la carie dentaire et une campagne intense est menée dans le but de répandre ce moyen de contrôle. Cette procédure est inoffensive puisque, jusqu'à maintenant, aucun indice n'a été décelé prouvant que l'eau fluorée pouvait déclencher certaines maladies et ce tant aux Etats-Unis qu'au Canada⁽⁵⁾.

Il faut se faire des propagandistes de la fluoration des eaux de consommation chaque fois que l'occasion se présente, parce que le fluor est un élément nutritif trop souvent oublié même s'il n'est pas absolument nécessaire à la formation de la dent.

En résumé, nous pouvons dire que la période de maturation de la dent est la concrétisation, la phase terminale de sa formation et elle sera plus ou moins complète selon la qualité de l'alimentation. Elle est aussi la période d'attaque des agents extérieurs, qui sera conditionnée en gravité précisément par la nature de cette formation primaire.

Si la carie dentaire est un mal très répandu, surtout chez les moins de trente ans, il n'en demeure pas moins qu'elle n'est pas la seule affection de la cavité buccale. Les maladies périodontiques sont la cause de plus d'extractions que la carie elle-même et ceci se produit surtout au troisième stage de la vie de la dent, soit durant la période d'entretien.

Ces maladies sont caractérisées par des modifications cellulaires des tissus gingivaux, qui conduisent trop souvent à la destruction des tissus sous-jacents. Dans

ces cas, l'alimentation joue un grand rôle, puisqu'il s'agit d'une dégénérescence des cellules, qui président normalement au maintien des tissus gingivaux en bon état. Les tissus dentaires se renouvellent à condition de recevoir par une alimentation saine et appropriée les éléments nécessaires de réparation.

A l'état normal, les capillaires sanguins sont constitués de cellules unies entre elles par du tissu conjonctif et, lorsque des éléments essentiels, comme la vitamine C, par exemple, sont en déficience, ce tissu conjonctif perd peu à peu sa cohésion; les capillaires sanguins ne sont plus assez étanches pour empêcher l'extravasation relativement massive du sang qui y circule; la circulation devient gênée par l'affaissement de ces voies circulatoires; les gencives saignent, les tissus se désorganisent, et les dents se déchaussent.

Une alimentation équilibrée, rationnelle, complète et habituelle, comme le recommandent les normes alimentaires du Canada, aurait pu éviter tous ces dégâts.

L'hygiène alimentaire par rapport à la santé dentaire n'est pas un mythe et plusieurs facteurs le prouvent.

Les historiens des peuples indiens d'Amérique rapportent que ces derniers avec leur mode primitif de vie étaient exempts de carie dentaire; mais dès qu'ils connurent et adoptèrent notre mode d'alimentation raffinée, ils devinrent des candidats-élus à la carie dentaire.

Le Dr Mallenby et son épouse ont fait des expériences sur des chiens à qui ils donnèrent un régime déficient en vitamines A et D pendant cinq mois. Ils notèrent un retard remarquable dans la calcification de l'émail et une dentine pauvre présentant de larges espaces interglobulaires⁽⁶⁾.

D'autres observations confirment l'influence de l'hygiène alimentaire sur la santé dentaire.

Une revue française publiait récemment cette boutade que la moitié de ce que mangent les humains sert à les nourrir, l'autre moitié sert à nourrir le médecin⁽⁷⁾. Cet auteur aurait pu partager la part du

médecin avec le dentiste, car la majorité des dentistes vivent aux dépens du régime défectueux de la population.

Que devons-nous donc conclure de cet exposé? C'est que la vie de la dent se mesure en grande partie à l'alimentation. La mère enceinte est l'architecte des dents de son enfant et la première responsable de l'apport des matériaux nécessaires à la formation de sa structure dentaire.

Les dents de l'enfant et de l'adolescent acquièrent une calcification complète par une alimentation raisonnée et les moins

jeunes continueront à trouver dans l'alimentation saine la Fontaine de Jouvence de la santé dentaire.

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Epidémiologie des problèmes de santé dentaire*

par HENRI TOURIGNY, D.D.S., E.E.H.D.P., unité sanitaire de Stanstead

L'importance des maladies contagieuses, depuis qu'elles sont à peu près sous contrôle, a beaucoup diminué; le terme épidémiologie tend à perdre le sens restrictif qui ne l'adaptait qu'à ces maladies, pour reprendre son sens étymologique intégral, venant des 3 mots grecs: "épi", autour, parmi, idée de rayonnement; "demos" peuple et "logos", parole, étude; c'est-à-dire: étude de ce qui se répand, de ce qui rayonne dans la population.

Voyons l'application des méthodes de l'épidémiologie aux maladies des dents, comme on les applique aux maladies chroniques et même aux accidents.

Nous nous bornerons à étudier la carie dentaire, car c'est la principale cause de "mortalité" des dents, et c'est aussi la plus souvent responsable des autres maladies de la bouche. De plus, l'étude des gingivites, déviations, malocclusions, etc., atteindrait des proportions trop grandes pour le cadre de ce séminar.

NOUS CONSIDÉRERONS DANS CETTE ÉTUDE:

1. La prévalence et l'incidence de la maladie.

2.—Les traitements correctifs à lui opposer et la prévention secondaire qu'on peut obtenir.

3.—Les causes et les facteurs qui peuvent l'influencer.

4.—Les moyens de prévention proprement dite, c'est-à-dire les méthodes d'en empêcher l'occurrence et de la contrôler.

Voici la situation dans la majorité d'une population de choix, puisqu'elle est composée de médecins, de vétérinaires, d'infirmières, d'inspecteurs, d'éducateurs, voire même de dentistes . . . tous gens qui travaillent déjà à rétablir ou à maintenir la santé publique et qui sont ou se proposent d'être des "sentinelles de la santé."

Vous penserez, et avec raison, que l'échantillon est peu abondant et donc peu significatif.

Voici donc d'autres chiffres qui vont mieux illustrer la situation.

*Séminar présenté à l'Ecole d'Hygiène de l'Université de Montréal, le 25 février 1960.

Années 1954-55-56-57-58

Nombre et taux des enfants examinés, souffrant de carie dentaire, nombre et taux de dents cariées par bouche malade pour la province de Québec, Montréal et le comté de Stanstead

PROVINCE DE QUÉBEC					
Années	Enfants examinés	Enfants ayant caries	Taux %	Nombre de caries	N. caries par bouche
1955	95,741	76,522	79.9	439,359	4.6
1956	105,041	93,394	88.9	467,040	5.0
1957	102,609	91,912	89.5	472,868	4.8
1958	109,990	95,272	86.6	474,136	4.9
MONTRÉAL					
1954	9,278	8,468	91.3		
1955	8,846	8,165	92.3		
1956	8,771	8,013	90.5		
1958	19,328	13,348	69.1		
COMTÉ DE STANSTEAD					
1955	1,818	1,764	97.0	11,344	6.4
1957	1,865	1,764	94.5	11,641	6.3
1958	2,105	2,007	95.3	13,291	6.6

La population écolière de la province de Québec, selon ces statistiques, souffre donc de carie dentaire dans une proportion d'environ 85% et les bouches malades ont une moyenne de 4.5 à 5 dents affectées.

Ces chiffres montrent deux autres facteurs:

1) Les examens de bouche qui permettent ces compilations se font le plus souvent dans les écoles, avec un éclairage de fortune, ce qui peut laisser inaperçues un certain nombre de caries.

2) Ces examens ne tiennent pas compte des dents extraites ou obturées. Ils ne donnent pas des renseignements aussi complets que la méthode D M F (decayed, missing or filled).

C'est donc dire que le problème est encore plus sérieux que les chiffres ne l'indiquent.

La ville de Montréal, qui a un service dentaire organisé depuis quelques années, avait encore jusqu'à 1956 des taux de 90 à 92% d'écoliers affectés par la carie.

Enfin, le comté de Stanstead dont l'unité sanitaire n'a qu'un dentiste à temps partiel, et seulement depuis 9 ans, nous montre l'état de la santé dentaire dans une population rurale non organisée.

N'allez pas croire que la province de Québec est le seul endroit à souffrir de cet état!

Une enquête tenue en Nouvelle-Zélande, en 1956-57, sur la fluoration de l'eau, apporte la conclusion suivante sur le problème de la santé dentaire de ce pays:

"We regard the following matters as established:

1) Virtually every child born in New Zealand experiences dental decay—and in consequence, an *unduly high* proportion

of the population, over the age of 21 years, uses some form of dentures."

Voici un autre témoignage de l'Organisation Mondiale de la Santé, recueilli dans le rapport d'un comité d'experts, encore sur la fluoration, rapport publié en 1958 et contenant cette constatation sur la santé dentaire, dans le monde: "Dental caries is one of the most prevalent and widespread diseases in the world" et, en outre on peut y lire: "La maladie ne présente aucune restriction spécifique d'âge, de sexe ou de statut économique, ni n'est-elle particulière à aucun pays ou à aucune race." Dans les pays où des enquêtes dentaires ont été menées, on a constaté que la population presque entière est affectée par la carie dentaire et souffre de ses conséquences.

Ces constatations et ces chiffres ne donnent-ils pas aux dentistes le droit, ou plutôt ne leur imposent-ils pas le devoir, de faire monter le problème dentaire à son rang d'importance, j'oserais dire: de le monter sur son piédestal, et ce, sans être taxés de voir en lui le premier et le seul problème de santé?

C'est à se demander s'il ne serait pas souhaitable que la carie dentaire fût une cause de mortalité.

Mais en vérité, ne l'est-elle pas?

Il me revient à l'esprit un exemple que nous donnait notre professeur, M. le docteur Foley. Parlant d'un enfant qui fait une diphtérie et qui meurt plus tard d'une myocardite due à l'effet tardif des toxines, il nous dit: "C'est de diphtérie que cet enfant meurt, même si la myocardite en est accusée sur le certificat de décès."

Ne peut-on pas dire, par comparaison, que la carie dentaire négligée, qui cause un abcès, puis un foyer d'infection qui diffuse à distance, et enfin produit une néphrite ou une péricardite mortelle, la carie dentaire, n'est-elle pas la cause première du décès?

Mais, puisque nous avons jugé que les statistiques, les déclarations et les constatations mentionnées plus haut étaient suffisantes pour établir l'état épidémique, même "sans variation de la normale", et

même si nous n'avons pas de taux de mortalité, passons à la 2ième partie de cette étude qui traite de traitements correctifs et de prévention secondaire.

TRAITEMENTS CORRECTIFS ET PRÉVENTION SECONDAIRE

Le premier averti d'une épidémie est le médecin praticien, qui s'arme de sa science, de ses médicaments et de son dévouement pour soigner ses malades et protéger leur entourage.

Le dentiste qui termine ses études entre en vrac dans le champ de "l'épidémie permanente". Il s'arme de sa science, de ses instruments et de son dévouement pour soigner ses malades; mais avec cette différence que ce ne sont pas 8, 10 ou 12 malades qu'il a à soigner, mais 4, 6, 8 malades par bouche d'individu. Il ne peut pas penser aux traitements curatifs, mais à des traitements de réhabilitation, car la carie dentaire est incurable, en ce sens que, la partie de la dent atteinte de carie est irrémédiablement détruite: les tissus de la dent ne se reconstruisent pas. Les dentistes praticiens par leurs soins correctifs, c'est-à-dire les obturations, enrayent l'évolution de la maladie; ils arrêtent la destruction de la dent et rebâtissent artificiellement la partie détruite.

Ils mettent en oeuvre une "prévention secondaire" (mieux nommée prévention indirecte). En effet, en arrêtant la carie, ils évitent qu'elle ne pénètre en profondeur, qu'elle n'atteigne et ne mortifie la pulpe; ils empêchent l'abcès dentaire, ils préviennent les foyers d'infection qui pourraient en résulter et leurs conséquences possibles dans d'autres régions de l'organisme.

Malheureusement, comme le médecin est souvent appelé trop tard pour sauver son patient, trop souvent, le dentiste est consulté trop tard pour sauver les dents malades. Alors il se voit obligé de procéder à l'extraction. Je ne parle pas ici des extractions effectuées sans raisons suffisantes, et même sans raison du tout, souvent faites par d'autres que des dentistes.

Le dentiste consciencieux se voit souvent forcé d'extraire une dent trop négligée. Ce n'est sûrement pas un traitement curatif: la dent est éliminée . . . nous l'appelons habituellement le traitement radical.

Ce traitement radical est encore de la prévention secondaire.

L'extraction prévient l'abcès, le foyer d'infection avec ses répercussions à distance.

Il ne faut pas croire, parce que jusqu'ici il n'a été question que d'extractions et d'obturations, que les traitements dentaires se résument à ces seules opérations. Les bornes de ce travail ont imposé ces limites.

Il est bon, au moins pour une compréhension plus complète des problèmes de la santé dentaire, d'énumérer les soins qui entrent dans les activités du dentiste, par exemple:

Soins des gencives, ablation du tartre, prophylaxies, correction d'articulation, prothèses de remplacement, redressements des déviations, etc., etc. Tous ces traitements sont prodigués par le dentiste pour guérir ou corriger l'état de la bouche, mais aussi pour rétablir sa fonction physiologique principale: la mastication. Or, qui dit bonne mastication, dit bonne digestion, bonne absorption et bonne assimilation, opérations qui sont les compléments nécessaires de la nutrition, elle-même si importante dans la santé générale.

Mais où donc entre en fonction le dentiste-hygiéniste?

Nous allons le voir dans les lignes qui suivent.

CAUSES DE LA CARIE ET FACTEURS QUI L'INFLUENCENT

Le dentiste-hygiéniste au courant de la situation, comme l'officier-médical à la déclaration des cas, recherche la cause de la maladie et les facteurs qui peuvent l'influencer. Les chercheurs, malheureusement, n'ont pas encore trouvé de microbe, bactérie-virus ou parasite qui puisse être

accusé directement d'être l'agent causal de la carie dentaire.

Et pourtant les recherches se poursuivent depuis nombre d'années.

On a accusé la malpropreté, le manque d'hygiène, mais on a constaté que, malgré le soin, que de nombreux patients apportaient à leur bouche, ils souffraient de carie, tandis que d'autres sans hygiène en souffraient à peine ou pas du tout.

On a accusé les sucres de dissoudre l'émail des dents; mais, comme dans le cas de l'hygiène, les contraires ont été observés: peu ou pas d'hydrocarbonés avec carie . . . ou pas de carie avec régulière consommation plus ou moins grande de sucre.

On a accusé les bactéries d'attaquer directement les dents, mais encore là, trop de facteurs entrent en ligne de compte pour prononcer un verdict.

On a parlé de prédisposition rendant la dent plus susceptible à la carie . . . Mais cette prédisposition, d'où vient-elle?

Est-ce l'hérédité?

Est-ce une mauvaise nutrition de la mère pendant la grossesse ou de l'enfant pendant la période de formation des dents? ou les deux?

Est-elle due à une déficience ou à une carence de vitamines ou de minéraux?

On a affirmé, il n'y a pas très longtemps, que la "carie dentaire n'est pas une maladie à virus". Est-ce prouvé? . . .

Nous avons cependant un fait établi sans conteste, hors de tout doute: les sels minéraux de la dent sont dissous par des acides, produits de l'action de certaines bactéries, surtout les lactobacilles, sur les hydrocarbonés.

Cet ensemble de facteurs peut-il être appelé agent causal spécifique?

Par contre, il y a de nombreuses observations sur d'autres facteurs, qui sans être les agents spécifiques, favorisent sûrement l'incidence et l'évolution de la maladie.

Le dentiste-hygiéniste, avec la collaboration des autres hygiénistes, a comme rôle, tout en continuant de chercher la ou les causes spécifiques de carie, de

tenter d'éliminer les facteurs qui la favorisent, pour éviter son éclosion dans la mesure du possible: d'en enrayer l'évolution.

C'est la prévention proprement dite.

PRÉVENTION

Utilisons encore les méthodes épidémiologiques et considérons trois moyens de prévention susceptibles d'aider dans ce domaine.

1.—Le dépistage précoce qui pourrait être comparé à la déclaration des cas.

2.—L'éducation du public que l'on pourrait appeler "l'instrument universel" de prévention.

3.—J'hésite à mentionner "vaccination" puisqu'il n'y en a pas contre la carie, mais nous en dirons quelques mots pour voir ce qu'elle peut donner.

Que fait le dépistage dans la prévention? Il encourage la conservation de la dent par un traitement adéquat.

Il évite la contagion d'une dent à l'autre, car une dent saine en contact avec une dent cariée finit par se carier elle-même et peut "contaminer" sa voisine.

Il prévient une perte plus considérable de la substance de la dent et conserve à l'appareil dentaire une plus parfaite intégrité qui le rend plus apte à accomplir sa fonction principale, la mastication, dont nous savons l'importance.

Notre deuxième moyen de prévention, c'est l'éducation.

En quoi consiste cette éducation?

Elle vise à enseigner, ou plutôt, elle continue à enseigner les principes qui aident à bâtir et à maintenir un corps en bonne santé, et aussi la bouche et les dents.

Elle prêche les bonnes habitudes d'hygiène dentaire, c'est-à-dire la propreté de la bouche, le brossage des dents, de bons principes alimentaires.

Elle insiste sur l'importance de la mastication comme complément nécessaire d'une saine alimentation et comme exercice dont les tissus de la bouche ont besoin, pour y maintenir une bonne circulation et conserver leur tonicité.

La mise en garde contre l'abus des suceries doit aussi être inscrite au programme.

Il incombe à l'éducateur dentaire de convaincre le public de l'importance des dents et de la nécessité de les conserver toute la vie; d'exposer les dangers de la carie qui s'infiltré sournoisement et qui peut se dissimuler, sans être vue, durant des mois. Il lui est facile de démontrer qu'il faut déceler à tout prix cette carie qui se répand à l'improviste dans les interstices dentaires, la profondeur des sillons, sous les bords gingivaux.

Il faut, pour déceler cette carie, l'œil averti d'un dentiste compétent avec l'aide du miroir et de l'explorateur, et voilà pourquoi l'examen périodique de la bouche, environ 2 fois par année, est tant recommandé.

Ces principes devront être répandus, prêchés, répétés au sein de la population; ils s'incrusteront peu à peu dans les esprits et forment une "conscience" dentaire.

Nous n'avons malheureusement pas de vaccin pour la prévention massive. Mais . . . nous avons aujourd'hui, une mesure reconnue et éprouvée, susceptible de prévenir la carie dentaire dans une proportion de 60 à 65%. C'est une méthode qui nous a été enseignée par la nature elle-même et dont on fait l'application artificielle depuis au-delà de 15 ans avec les mêmes résultats.

C'est la fluoration de l'eau de consommation. La mesure, comme les vaccins, a été prouvée efficace et inoffensive et voici la déclaration qu'a faite à son sujet l'Association dentaire canadienne.

DÉCLARATION DE L'A.D.C. AU SUJET DE LA FLUORATION

"Considérant que la carie dentaire dont souffre la majorité des habitants du Canada est reconnue comme un des problèmes majeurs de la santé publique;

"Considérant que la fluoration est une mesure de santé publique qui a été l'objet de recherches les plus variées au cours des dernières trente années;

"Considérant que ces recherches ont prouvé que les fluorures, dans la proportion recommandée d'une partie par un million de parties d'eau, ne produisent aucun effet nocif et qu'ils contribuent à abaisser de deux tiers l'incidence de la carie dentaire;

"Considérant que les enfants bénéficient de la fluoruration et que ses effets se perpétuent chez les adultes;

"Il est proposé que l'Association dentaire canadienne réitère ses recommandations au peuple canadien pour que les municipalités qui ont un aqueduc adoptent un système par lequel elles ajoutent du fluor à leur eau pour lui donner une teneur en fluor jugée adéquate pour prévenir autant que possible la carie dentaire et que, dans ce but, elles sollicitent les conseils de leurs dentistes, leurs médecins et leurs ingénieurs."

Il serait trop long de mentionner les expériences qui ont été faites sur cette mesure de santé publique; de même, il ne convient pas d'énumérer et de réfuter les objections qu'on y apporte.

J'aimerais cependant donner une manière d'envisager la question.

Le problème "carie dentaire" semble un problème presque insoluble à cause du grand nombre de personnes atteintes par cette maladie et la quantité de dents affectées chez chacun de ces malades.

Nous avons un moyen efficace, inoffensif et pratique de réduire son ampleur des 2/3 environ (60 à 65%) et les résultats commencent à se faire sentir de façon appréciable après 5 ou 6 ans d'expérience.

Cette mesure donne son plein rendement environ dix ans après son application.

Nous croyons que de tels résultats sont de nature à encourager le public, s'il entrevoyait plus de chance de succès, à sortir de son apathie et à pratiquer davantage les principes d'hygiène. Les praticiens seraient de plus encouragés dans leur lutte contre ce fléau quasi-universel.

Alors pourquoi attendre et remettre à plus tard une action intensive en faveur de cette mesure?

RÉSUMÉ

Les lignes qui précèdent exposent une conception de l'épidémiologie des problèmes de santé dentaire d'après:

- 1.—l'étude de l'ampleur du problème;
- 2.—la lutte qui se fait pour le résoudre;
- 3.—ses causes et ses facteurs;
- 4.—les moyens de prévention.

Donnons-nous la main pour travailler dans ce sens et je suis convaincu que nous contribuerons à faire avancer d'un grand pas la Santé Dentaire de cette province.

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Compte-rendu du Congrès de l'Association Dentaire de la province de Québec, tenu à Québec les 26, 27 et 28 mai 1960

Par PAUL SIMARD, D.D.S., Lévis, P. Qué.

Les quelques 300 congressistes inscrits aux assises provinciales, dont l'organisateur était le Dr Jacques Dufour de Québec, ont semblé très satisfaits de leur séjour dans la vieille capitale . . . Le programme scientifique était d'une teneur particulière. Au cours de la première journée, le docteur Roland Baribeau a fait part à ses confrères de techniques nouvelles en prothèse. Les onze autres conférenciers ont présenté des exposés courts et très concis sur les sujets relevant de leur spécialité:

Dr Zdenek Mezl—"Nouveaux concepts sur la carie dentaire"

Dr Roland Gendron—"Antibiothérapie en périodontie"

Dr Antoine Raymond et Claude Baril — "Transplantations expérimentales de dents incluses"

Dr Paul Dionne — "Cicatrisation néodontinaire des plaies pulpaires"

Dr André Charest—"Prothèses avec piliers sous-périostéaux"

Dr J.-P. Lussier—"Nouveaux concepts sur la physiologie osseuse"

Cpt J. Le Bossé, C.D.R.C. — "Appareils d'alliage chrome-cobalt"

"Prothèse partielle: Procédure clinique recommandée au sein du Corps Dentaire Royal Canadien."

Dr Georges Perreault—"Rapports préliminaires sur les effets des traumatismes sur le développement de la dentine."

Dr W. B. Donohue—"Rapports préliminaires sur les effets des doses massives sur la croissance du crâne."

Cpt J. Y. Turcotte, C.D.R.C.—"Endodontie appliquée en pédodontie"

Dr Hervé Deschesne — "Considérations pratiques sur la dentisterie opératoire."

Ces diverses communications ont suscité un vif intérêt chez tous les confrères et il serait certes souhaitable qu'une publication en soit faite.

A l'occasion du lunch d'affaires du Collège, le président du Collège, le Dr Jean-Paul Lachapelle, a esquissé une magnifique synthèse des problèmes qui confrontent la profession dentaire de même que des efforts faits par celle-ci pour y apporter une solution. L'allocation du Président s'est située sur le plan social, dressant à la fois les devoirs de la profession envers la société et ceux de la société à l'endroit des dentistes. Le Dr Lachapelle concluait: "On se doit de travailler à l'équilibre et à l'harmonie entre les classes sociales et c'est dans cet esprit de justice et ce sens des responsabilités, que nous, les dentistes du Québec, voulons collaborer à promouvoir la santé générale et dentaire de nos concitoyens. Il est vrai que si les droits des uns et des autres sont satisfaits dans l'accomplissement des devoirs réciproques, il faut également que l'exercice de toutes les professions soit en accord avec l'ensemble des institutions sociales et politiques de leur milieu" . . . Ces paroles ont trouvé un écho vibrant chez les congressistes qui ont longuement manifesté leur appréciation. A cette occasion, le Dr Gustave Ratté a brillamment tiré le mot de la fin.

Le programme des dames, qui, à leur demande, n'était pas trop chargé, comprenait un thé au Salon Rose du Château, un lunch au Québec Winter Club avec le caricaturiste Normand Hudon comme conférencier. Ce dernier a d'ailleurs eu l'occasion de dérider l'auditoire mixte au cours du lunch d'adieu . . . Un autre conférencier, M^{re} Wheeler Dupont, a dressé

au cours du premier lunch un tableau des plus humoristiques des différents types d'orateur. Étaient de bon ton la présentation et les remerciements des Drs Prime Duchaine et Henri Hamel.

La "Grande Soirée" a débuté par le dîner de l'Association Dentaire du Québec, qui était rehaussé par la présence du lieutenant-gouverneur de la province ainsi que de Mgr Vachon . . . Le conférencier invité, M. Victor Barbeau, membre-fondateur de l'Académie Canadienne-Française, avait intitulé son entretien "Si la bourgeoisie ne meurt." Avec une éloquence sobre et dans une langue d'une rare pureté, il a exposé les devoirs de la classe bourgeoise. Véritable bain de patriotisme de bon aloi. Les Drs Gérard de Montigny et Paul Simard ont respectivement présenté et remercié le conférencier, avec beaucoup d'à propos.

Au cours de ce dîner, le Dr Roger Charette, président sortant de charge, a remis aux Drs Conrad Godin et Louis Bernier

une plaque-souvenir de l'Association en reconnaissance et appréciation de services rendus.

Lors de la Réunion générale de l'Association l'on a surtout discuté de l'opportunité de toujours tenir le congrès dans un grand centre . . . La majorité de l'assemblée a paru opter pour la formule actuelle, qui consiste à confier avec alternance l'organisation du congrès aux principales sociétés groupées dans l'Association. Le congrès de l'an prochain aura lieu à Sherbrooke. Au cours de la même réunion, le Dr Roger Charette a fait part du nouvel exécutif:

Président: Dr Léo-Paul Dubé

Vice-président: Dr Charles Tessier

Trésorier: Dr Guy Robert

Secrétaire: Dr Paul Simard

L'Association Dentaire de la Province de Québec, même si elle ne compte que quelques années d'existence, se révèle bien vivace . . . au plus grand profit de la profession et de la population.

Photo prise durant le Congrès



De g. à d.: les docteurs Charles Tessier, nouveau vice-président de l'Association dentaire de la province de Québec, Roger Charette, président, L.P. Dubé nouveau président, Paul Simard, secrétaire.

Nouvelles de l'Association

Prix de passage réduits pour le Congrès d'Ottawa

L'Association canadienne des Passagers a consenti à des réductions de prix pour les billets de chemin de fer utilisés par les dentistes qui se rendront à Ottawa pour le Congrès national qui aura lieu du 27 au 27 septembre prochain. On peut obtenir des certificats d'identification pour bénéficier de ces prix en faveur en s'adressant au Secrétaire de l'Association dentaire canadienne, 234 rue St.-Georges, Toronto.

Les dates autorisées pour les départs sont les suivantes:

Pour les gares de Terre-Neuve: du 14 au 22 septembre, inclusivement.

Pour toutes les gares à l'est et comprenant Armstrong et Fort William, Ont. (à l'exception de Terre-Neuve): du 17 au 24 septembre, inclusivement.

Pour toutes les gares à l'ouest d'Armstrong et Fort William: du 14 au 22 septembre, inclusivement.

Inauguration de la nouvelle faculté de chirurgie dentaire de l'Université de Manitoba

L'inauguration de la première nouvelle faculté dentaire depuis quarante ans a eu lieu à Winnipeg, le 18 mars dernier. La pierre angulaire a été posée par le lieutenant-gouverneur de la province de Manitoba, l'Honorable Errick F. Willis. Le Ministre de la Santé de Manitoba, le docteur Georges Johnson, a coupé le ruban et déclaré ouvert le nouvel édifice. L'université était officiellement représentée par son président, le docteur Hugh H. Saunderson.

Plusieurs personnages de marque des Etats-Unis et du Canada assistaient à la cérémonie, qui a été suivie d'une collation spéciale. Les doyens de toutes les facultés dentaires canadiennes et plusieurs doyens de facultés américaines étaient présents. L'Association dentaire canadienne a transmis ses vœux officiels par la voix de son président, le docteur W. G. McIntosh. L'Association dentaire de Manitoba a reçu à diner, à l'occasion de cet événement, tous les invités d'honneur et plusieurs dentistes distingués de la province.

On a rendu hommage au doyen de la nouvelle faculté, le docteur John W. Neilson. Ce nouvel édifice qui a coûté deux millions et qui a trois étages pourra recevoir trente étudiants par classe. Déjà, les deux premières classes ont commencé leurs études et la première graduation aura lieu en 1962.

Un ancien président de l'A.D.C. est honoré au cours d'une collation spéciale.

Le docteur Howard James Merkeley, de Winnipeg, président de l'Association dentaire canadienne pour le terme 1948-49 et maintenant un membre honoraire de l'Asso-

ciation, a reçu un doctorat "honoris causa" en droit au cours d'une collation spéciale des grades qui a suivi l'inauguration officielle de la nouvelle faculté de chirurgie dentaire, à Winnipeg, le 18 mars. A la même occasion, on a honoré le docteur Harry Ernest Bulyea, ancien directeur de la faculté de chirurgie dentaire de l'Université d'Alberta, et le docteur Harry Lyons, le doyen de la faculté dentaire de l'Université de Virginie et ancien président de l'Association dentaire américaine.

Au cours de la cérémonie, les docteurs J. D. McLean, doyen de Dalhousie, J. McCutcheon, doyen de McGill, J. P. Lussier, vice-doyen de Montréal, R. G. Ellis, doyen de Toronto, H. R. McLean, doyen d'Alberta, ont transmis à l'université de Manitoba les vœux de leurs universités respectives. Les doyens des universités Columbia, Washington et Harvard ont aussi présenté leurs souhaits. Le docteur Lyons a parlé au nom de son université, de l'Association dentaire américaine et de l'Association américaine des Facultés dentaires. Il a aussi prononcé l'allocution de circonstance au cours de la collation des grades.

Le Conseil d'Enseignement dentaire s'assemble à Winnipeg

Le Conseil d'Enseignement dentaire s'est réuni à Winnipeg du 17 au 19 mars, à Winnipeg, et cette réunion coïncidait avec les cérémonies de l'inauguration de la nouvelle faculté dentaire.

Les doyens des six facultés dentaires étaient présents de même que le président de l'A.D.C., le docteur W. G. McIntosh, M. Ben Miller, assistant-secrétaire du Conseil d'Enseignement dentaire de l'Association dentaire américaine, le docteur H. K. Brown, du Ministère de la Santé nationale et du Bien-Etre social et plusieurs autres.

Le Conseil a mis la dernière main à l'enquête complète qui doit avoir lieu au cours de l'année académique 1960-61 dans les facultés dentaires du Canada. On a entrepris une enquête semblable, il y a cinq ans. Le docteur A. C. Lewis, ancien doyen de l'Ecole de Pédagogie de l'Université de Toronto et le docteur Harvey W. Reid, de Toronto, feront partie de l'équipe d'enquête. Chacun des doyens des diverses facultés se joindra à l'équipe pour évaluer une autre faculté que la sienne. Le Conseil a consacré beaucoup de temps à discuter des moyens à prendre pour augmenter les disponibilités pour former un plus grand nombre de membres du personnel auxiliaire et le rôle que pourraient jouer dans ce domaine la profession et les facultés dentaires. Le Conseil a félicité le docteur Neilson et l'Université de Manitoba pour l'excellence des facilités mises à la disposition des étudiants pour leur cours d'études.

Congrès de l'Association dentaire canadienne à Ottawa

les 25, 26, 27, 28 septembre 1960



Résidence du Premier Ministre

Programme scientifique

- lundi, le 26 sept. — 10.00 h. p.m. — *“La restauration des dents considérablement avariées à l'aide de pivots striés et de bases en amalgame armé”* — Dr Miles R. Markley
— 2.30 h. p.m. — *“Les stomatites traumatiques”* — Dr Donald A. Kerr
— 2.45 h. p.m. — *“L'application des principes d'orthodontie dans l'exercice courant et leurs rapports avec la prévention”* — Dr J. A. Salzman
- mardi, le 27 sept. — 9.00 h. a.m. — *“Les symptômes des maladies du sang dans la bouche”* — Dr Donald A. Kerr
— 10.30 h. a.m. — *“La préparation des cavités pour l'amalgame et ses rapports avec l'intégrité de la dent et des tissus qui la composent”* — Dr Miles R. Markley
— 2.00 h. p.m. — Expositions et démonstrations scientifiques (pour expliquer à l'omnipraticien les nouveaux développements dans les recherches et l'enseignement)
- mercredi, le 28 sept. — 9.00 h. a.m. — *“La mise en place d'obturations ‘permanentes’ en amalgame”* — Dr Miles R. Markley
— 10.30 h. a.m. — Colloque sur les “Effectifs de la profession dentaire”
— Dr R. G. Ellis, dentistes
— Dr James McCutcheon, assistantes
— Dr J. W. Neilson, techniciens
— Dr W. J. Dunn, hygiénistes
— 2.30 h. p.m. — *“Types de stomatites que l'omnipraticien doit connaître”* — Dr Donald A. Kerr

TRADUCTION SIMULTANÉE

Programme des dames

dimanche, le 25 sept.	2.00 h. p.m.	—	Visite de la Ville et des environs
	8.15 h. p.m.	—	Réception, Galerie nationale du Canada
lundi, le 26 sept.	12.15 h. p.m.	—	Déjeuner et parade de modes
	8.00 h. p.m.	—	Soirée du Bon Vieux Temps à Bytown
mardi, le 27 sept.	1.30 h. p.m.	—	Visites organisées (choix.)
		—	endroits historiques et intéressants de la Capitale
	3.30 h. p.m.	—	tournée sur la Gatineau
mercredi, le 28 sept.		—	Visite du nouvel Hôtel de Ville d'Ottawa
	12.15 h. p.m.	—	Thé
		—	Déjeuner de l'Ass. dentaire de l'Est de l'Ontario. Invité d'Honneur: le très honorable John G. Diefenbaker
	6.00 h. p.m.	—	Cocktail
	7.00 h. p.m.	—	Diner du président

Formule d'inscription

Association dentaire canadienne

a/s Bureau du Tourisme et des Congrès d'Ottawa

70 rue Nicholas

Ottawa, Ont.

Nom

Adresse

Ville

Nom de l'épouse

Frais d'inscription: seul \$35.00 Epouse \$15.00

(ci-inclus chèque mandat (fait payable au Comité du

Congrès A.D.C. 1960)

Réservation de chambres

chambre d'hôtel simple	lits jumeaux	lit double	\$10.00-\$16.50
cabine de motel simple	lits jumeaux	lit double	\$9.00-\$14.00
maison de touriste .. simple	lits jumeaux	lit double	\$8.00- \$9.00

Indiquer la préférence en marquant (A) (B) (C)

Nouvelles du Corps Dentaire Royal Canadien

Le colonel J. F. Edgecombe est nommé colonel commandant honoraire du Corps dentaire royal canadien

Le Quartier-général de l'Armée a annoncé que le ministre de la Défense nationale, l'honorable G. R. Pearkes, V.C., a approuvé la nomination du colonel J. F. Edgecombe, O.B.E., E.D., C.D., D.D.S., F.I.C.D., au poste de colonel commandant honoraire du C.R.D.C., à compter du 6 janvier 1960.

Le colonel Edgecombe est né le 15 octobre 1898 et a fréquenté le Fredericton High School, à Fredericton (N.-B.). En septembre 1916, il s'inscrit dans la 9e Batterie de siège, puis il se rend en France, en 1917, où il sert dans l'Ambulance de compagnie du 3e corps d'armée.

Après son retour au Canada et sa démobilisation, en 1919, le colonel Edgecombe continue ses études et reçoit son diplôme de la Faculté de chirurgie dentaire de l'Université

de Toronto, en 1923. Entre les deux guerres mondiales, le colonel Edgecombe sert dans la Milice avec l'Artillerie royale canadienne (3e Brigade moyenne) jusqu'en 1939, parvenant jusqu'au grade de major.

Le 26 septembre 1939, il est muté au C.D.C. au grade de capitaine et, le 1er novembre 1939, il est promu major et nommé officier dentaire de district du 7e District militaire. Le 10 novembre 1939, il est promu au grade de lieutenant-colonel et, en juin 1941, il conduit la 3e Compagnie dentaire outre-mer. Le 1er mai 1942, il abandonne le commandement de la 3e Compagnie dentaire, lors de sa nomination au poste de sous-directeur des Services dentaires, Première Armée canadienne. Le 24 octobre 1944, il est promu au grade de colonel et le 17 mars 1945, il est décoré officier de l'Ordre de l'Empire britannique. Le 24 juillet 1945, le colonel Edgecombe est nommé sous-directeur des Services

dentaires au 1er Echelon du 21e Groupe d'armée, et le 26 novembre 1945, directeur adjoint des Services dentaires au Quartier-général militaire canadien, à Londres, Angleterre.

A son retour au Canada, il sert à la Direction des Services dentaires jusqu'en mars 1946, date à laquelle il se retire à Saint-Jean (N.-B.) pour y prendre sa retraite. En 1951, le colonel Edgecombe est nommé sous-directeur des Services dentaires auprès du personnel consultatif de la Milice de la Région militaire de l'Est, poste qu'il occupe jusqu'à sa retraite, le 30 avril 1959. Le colonel Edgecombe a également occupé le poste de dentiste honoraire de Sa Majesté, la Reine Elizabeth II, de juin 1953 à mai 1956.

Le colonel Edgecombe est membre de la Saint Andrew's Church, de la Saint John Dental Society, de la New Brunswick Dental Society et ancien membre de la Commission nationale d'examen dentaire. Il est également rédacteur associé du *Journal de l'Association dentaire canadienne*.

Commission consultative auprès du C.R.D.C.

Nous venons de recevoir la nouvelle que l'honorable George R. Pearkes, V.C., a approuvé la nomination des membres suivants de la Commission consultative dans les spécialités indiquées ci-après:

Dr J. E. Abra, Winnipeg (Man.)—Orthodontie.

Dr R. J. Godfrey, Toronto (Ont.)—Prothèse.

Dr D. W. Gullett, Toronto (Ont.)—Déontologie.

Dr J.-P. Lussier, Montréal (P.Qué.)—Recherches.

Dr H. R. MacLean, Edmonton (Alberta)—Diagnostic des maladies buccales et radiologie.

Dr J. D. McLean, Halifax, (N.-É.)—dentisterie opératoire.

Dr J. W. Neilson, Winnipeg (Man.)—Périodontie.

Dr D. W. Tanner, Toronto (Ont.)—Chirurgie buccale.

Vous trouverez dans le prochain numéro du *Journal* une courte biographie de chacun des membres de la Commission consultative.

Le brigadier Baird assiste à une réunion d'études sur les recherches en art dentaire

Le brigadier K. M. Baird, Directeur général des Services dentaires, a assisté à la 26e réunion du Comité consultatif sur les recherches dentaires du Conseil national de Recherches qui s'est tenue à Ottawa, les 3 et 4 mars 1960.

Le colonel Shillington inspecte les unités de Milice de l'Est

Le colonel G. B. Shillington, directeur général adjoint des Services dentaires, a inspecté la 50e Unité dentaire (M), à Halifax (N.-É.) et la 51e Unité dentaire (M), à Saint-Jean (N.-B.), au cours du mois de mars. Les deux unités participent au concours de compétence générale (Milice) pour 1960.

Les officiers dentaires assistent à une conférence sur la dentisterie militaire

Le lieutenant-colonel G. R. Covey, commandant de la 35e Unité dentaire de campagne, 1re Division aérienne, Metz (France), ainsi que le lieutenant-colonel R. H. G. Cunningham, commandant de la 4e Compagnie dentaire de campagne, 4e Brigade d'infanterie canadienne, Soest (Allemagne) ont assisté à une conférence sur la dentisterie militaire que s'est donnée au Royal Army Medical College, à Londres (Angleterre) les 12 et 13 mars 1960.

Cours

Les officiers ci-après du C.D.R.C. ont suivi récemment des cours post-universitaires. Ce sont:

Le major S. W. Muller, 14e Compagnie du R.C.D.C., Winnipeg (Man.), un cours sur les couronnes et ponts, à l'Université de Michigan.

Le major J. M. A. Donely, 1re Clinique, Quartier général de l'Aviation royale du Canada, Ottawa (Ont.), un cours sur la prothèse complète, à l'Université de Pennsylvanie.

Le major J. McGaughey, H.M.C.S. Stadacona, Halifax (N.-É.), un cours sur les couronnes et ponts, à l'Université de Pennsylvanie.

Le capitaine J. J. N. Wright, École du R.C.D.C., Camp Borden (Ont.), un cours en endodontie, à l'Université de Toronto.

The Canadian Dental Association

Volume 26

Number 8

Toronto

August 1960

JOURNAL

The Use of The Air Driven Handpiece in Dentistry For Children

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The values and advantages of the high speed and ultra speed handpiece are recognized and known by each individual dentist who owns and operates one. Except for the very recent graduate, the use of such a handpiece has been self taught by each dentist in his own office. Consequently, its application to the general practice of dentistry varies considerably from dentist to dentist and its use

in dentistry for children, although explored, has never been reported on to any great extent in the dental literature. The following report is based on a study designed to test the suitability of the air turbine handpiece in providing dental treatment for younger age children.

In a public service program such as ours which includes providing dental treatment for children, it is essential that the standard of treatment be maintained at the highest possible level, and that the

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dental service be kept abreast of the many advances being made by the dental profession. In this regard it is necessary to be able to evaluate the application of the newer types of equipment to the program, and to be in a position to warrant and justify the addition of any such equipment. With the wide acceptance of the air turbine by the profession, and the favorable remarks passed on by pleased owners, it soon became obvious that our service would have to determine whether it is as applicable and advantageous to a children's dental clinic as it apparently is to a general practice.

In our program we treat only the younger age children from three to seven years. Before attempting to equip all of the clinics with air turbine handpieces, it was necessary to determine the following:

1. Would these young children tolerate or prefer the use of such high speeds in cavity preparation?
2. What saving in treatment time would result from its use?
3. What effect would its use have on the operator?
4. What would be the cost of maintenance, upkeep and burs for such an instrument compared to the conventional handpiece?

To initiate the study a Ritter, Model "B" Airtor was installed in a clinic in which the operator* expressed a desire and a willingness to keep the necessary accurate records needed in such an undertaking.

The study was set up to fit into the regular work and routine of the dental clinic, while at the same time providing data for our special needs. It was decided to allow the operator a period of orientation to the new handpiece before beginning the study, so that there would be less discrepancy in cavity preparation times as the operator became familiar with this new instrument. The actual study began on February 26th, 1959 and

terminated on March 7th, 1960. During this period the records for over one hundred children have been used for the purposes of the study, and the records were kept as follows:

1. *Patient's Reaction*

Each patient had separate quadrants prepared using the conventional handpiece alone and the airtor alone. The patient's reactions were recorded by:

- (a) Questioning as to preference.
- (b) Threshold of sensation — depth of anesthesia required.
- (c) Observation of patient.

2. *Time in Cavity Preparation*

- (a) With rubber dam and air coolant
- (b) Without rubber dam using water coolant

During the orientation period it was found that in almost every case where the preparations were done without rubber dam using water coolant, the children objected to the procedure and the operator experienced difficulties as follows:

- a. The water and air playing into the gingival crevice disturbed the child.
- b. Preparing the lower arch the air stream exhaust coming from the head of the handpiece struck the soft palate and caused gagging.
- c. Preparing the upper arch the exhaust air striking the base of the tongue caused gagging.
- d. It was difficult to keep the small child's tongue away from the rapidly revolving bur, which caused rapid surface burns and lacerations.
- e. Inadequate suction in this particular clinic made it difficult to remove the water used as coolant.
- f. With poorer vision, moisture and debris the quality of cavity preparation and finished dentistry was poor compared to what could be done with isolation of the quadrant by rubber dam.

Since we are concerned primarily with the comfort and welfare of the patient and the standard of dental

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treatment, it was decided to conduct the whole study using rubber dam on all children, ages 3 to 7.

Cavity preparation time was measured accurately with a timepiece in minutes and seconds. Children who required multiple quadrant dentistry were chosen so that a quadrant could be prepared using conventional handpiece only, and another quadrant prepared using the airtor only as much as possible. An accurate record was kept in all cases of the number of surfaces involved in the preparations.

3. Operator's reaction and preference

4. Cost of Maintenance, Upkeep and Burs

PROCEDURE

As children were examined and found to require restoration of comparable quadrants suitable for the study, they were charted and given an identification number. At this first appointment treatment was commenced using either of the two handpieces, and then they were used in an alternate fashion at subsequent appointments until the child was completed. Accurate records were kept at each and every appointment on patient reaction, sensation, stated preference, number of surfaces involved and cavity preparation time.

Each child was treated routinely in the same manner. Local anesthetic was used for "putting the tooth to sleep", a McKesson rubber mouth prop was inserted between the teeth as a "chair to rest your teeth on" and the quadrant to be operated was isolated with rubber dam as a "raincoat to keep the tooth dry". This procedure was maintained throughout the entire study, and has continued since the study ended. At no time was premedication or sedation used.

RESULTS

1. Patient's Reaction

No attempt was made to measure the pain incidence of high speed cavity

preparation in primary teeth without anesthesia. Herzberg¹ reported that in the cases he studied primary teeth showed "no pain" in 52 per cent, "moderate pain" in 41% and "pain" in 6% of the cases. Using local anesthesia routinely in our study there were no problems with discomfort during cavity preparation.

After the completion of two quadrants using the two different handpieces, the average child was able to state, without hesitation, which type of handpiece he preferred. In most cases, as shown in Table I, the airtor was the one preferred.

TABLE I
STATED PREFERENCE OF CHILDREN
BY AGE

Age	No. Children	Preference	
		Ordinary	Airtor
3	8	1	7
4	24	3	21
5	21	7	14
6	43	6	37
7	6	0	6
TOTAL		17	85

Table I shows that 83% of the children preferred the airtor to the conventional type handpiece. Most children preferred it because there was "no shake" (vibration), and it was "quieter" on their tooth. Those children who preferred the conventional handpiece did so because they didn't like the whine of the airtor, but even so, they tolerated it well enough to allow full completion of their treatment.

During cavity preparation a close watch was kept on all the children for signs which might indicate concern or discomfort. During cavity preparation with the conventional handpiece there were usually small reactions such as eye squinting, wrinkling of the forehead, nervous

TABLE II
CAVITY PREPARATION TIMES WITH CONVENTIONAL HANDPIECE
BY AGE OF CHILD

Age	Total Quadrants Prepared	Total Prep. Time (Minutes)	Total Surfaces Involved	Average Chair Time (Minutes)	Average Prep. Time Per Quadrant (Minutes)	Average Prep. Time Per Surface (Minutes)	Average Surfaces Per Quad.
3	11	81	61	39:06	7:20	1:20	5.5
4	34	228	163	38:36	6:42	1:24	4.8
5	33	205	148	38:49	6:24	1:23	4.6
6	57	398	275	39:01	6:59	1:27	4.8
7	8	51:30	37	38:50	6:26	1:23	4.6
COMBINED	143	963:30	684	38:52	6:43	1:24	4.8

movement or tensing of the limbs each time the bur was applied to the tooth to cut tissue. With the airtor these signs were usually absent, and the children sat back in an apparently relaxed manner.

2. Time in Cavity Preparation

Cavity preparation was carried out using air coolant only, as the clinic was not furnished with vacuum equipment to remove the water used in water cooling. With the airtor the air coolant from the exhaust of the handpiece head was augmented by air from a syringe held by the dental assistant. Studies have shown that temperature rise in cavity preparation is substantially reduced by the use of water coolant,^{2,3,4,5} but with rubber dam, twin streams of cold air and the extremely light touch of about one-half ounce⁶ used in cavity preparation it was decided to proceed without it. At subsequent appointments a close symptomatic check was made to determine whether thermal injury to the pulp resulted from this treatment. No single case of apparent injury or discomfort was reported during the entire year among the children in the study, or the many other children treated whose records are not incorporated in this report. In questioning practising dentists in the area we have found many of them have been using the airtor "dry" for as long as three years with no apparent detrimental thermal effects on

the pulp from heat rise during cavity preparation.

As preparation of the isolated quadrant was begun, a timer was set to measure accurately the time taken to complete the necessary cavity preparations. The number of surfaces involved was recorded as well. This procedure was followed for both the airtor operated at 30 p.s.i. air pressure and approximately 150,000 to 200,000 r.p.m. while cutting, and the conventional handpiece which was operated at 10,000 r.p.m.

Tables II and III show cavity preparation and chair times for each age group for the two different handpieces. Chair time was measured from injection of local anesthetic to removal of the rubber dam, omitting preliminary preparation of the patient and dismissal procedures. The first and probably most surprising information to come to our attention as the study got under way was the ratio of cavity preparation time to total chair time. In the daily routine provision of dental treatment one gets the impression that cavity preparation constitutes the major portion of a dental appointment, but our time analysis shows that it is really only a minor portion. Even with the slow, conventional handpiece cavity preparation time constitutes only 1/6 of total chair time (38:52-6:43), and only 1/7 of the total appointment time (45:00-6:43). With the airtor it is reduced to 1/9 of the chair time (37:57-

TABLE III

CAVITY PREPARATION TIMES WITH AIROTOR BY AGE OF CHILD

Age	Total Quadrants Prepared	Total Prep. Time (Minutes)	Total Surfaces Involved	Average Chair Time (Minutes)	Average Prep. Time Per Quadrant (Minutes)	Average Prep. Time Per Surface (Seconds)	Average Surfaces Per Quad.
3	11	43	55	38:48	3:54	0:47	5.0
4	35	151:30	169	38:36	4:19	0:56	4.8
5	35	141	158	37:31	4:01	0:54	4.5
6	55	227:30	267	38:00	4:07	0:51	4.9
7	9	36:30	41	36:54	4:03	0:56	4.6
COMBINED	145	599:30	690	37:57	4:07	0:52	4.8

4:07) and 1/11 of the appointment time (45:00-4:07). For combined ages the high speed handpiece eliminated or saved 2 minutes and 36 seconds of actual cavity preparation time. To us, as dentists, this may not seem very great, but to a patient, two minutes of "drilling" is probably a good long time.

The actual time saved amounted, on the average, to 32 seconds per surface. Beebe⁷ has reported a saving of one minute per surface using speeds of 10-13,000 r.p.m. Changing to percentage shows that the use of the airtor in this study saved 38% of cavity preparation time, as compared to 43% reported by Ingraham⁸ and 39% reported by Van de Waa⁹.

Since two and a half minutes are saved in cavity preparation, one would naturally presume a similar saving in chair time, but Tables II and III do not show such to be true. Less than a minute of chair time was saved by use of the airtor. The operator can find no reason for this discrepancy except possibly, having felt considerable time was saved in cavity preparation, unconsciously he devoted more time to finishing his amalgam fillings.

3. Operator's Reaction

The first impression gained by the operator was that cavity preparation time was greatly reduced, much more so than was indicated by the timer. The light touch and ease of cutting probably

accounts for this impression, and coupled with the actual two and a half minute saving, makes cavity preparation with the airtor a much more pleasant and easy procedure. The smooth, easy cutting of dental tissue gives the operator complete control at all times. There is no skipping or bur jumping as often occurs with the conventional handpiece in buccal preparations or proximal preparations, when the adjoining tooth is missing. It has been said that tactile sense is first lost and then regained with the airtor, but this was not found to be true, as it did not return to any marked extent. Good visual access to the field of operation is essential at all times^{10,11} as tactile sense alone cannot be relied on. The operator found, as mentioned earlier, that without rubber dam he had difficulty getting good visual access, and that the air exhaust caused patient discomfort with resultant excessive tongue movement, swallowing and gagging. This movement not only marred vision, but it increased the chances of soft tissue laceration, and made controlled cavity preparation difficult. Due to the high rate of cutting of tooth tissue by the airtor, it is desirable to have full patient co-operation. This was obtained successfully by routine use of local anesthetic, mouth prop and rubber dam.

From the operator's standpoint, the ease of operation with little pressure and maximum control makes the air driven handpiece the more desirable

one, causing less stress to both patient and operator.¹²

4. Cost of Maintenance, Upkeep and Burs

During the trial period of approximately thirteen months the air turbine handpiece required no repairs or parts replacements. Diamond and carborundum stones were not used because the majority of cavity preparations were in primary teeth, and the carbide burs used with this handpiece stood up extremely well. Consequently, the cost for the entire year was very small indeed. Over a longer period of time there will be need for rotor replacement and other minor repairs, but this handpiece promises to be extremely economical to operate.

SUMMARY

A study, designed to test the suitability of the air turbine handpiece in dentistry for children, has been reported. No attempt has been made to discuss operative techniques required in the use of this handpiece. Experience shows that the high operating speeds are well tolerated by young children, and that the ease of cavity preparation makes dentistry for children much easier for the operator. Cavity preparation time in quadrant dentistry for children is reduced by about one third.

Many studies on temperature rise during cavity preparation have been done, and they all indicate the need for water coolant while cutting tooth tissue. To the best of our knowledge these studies have all been carried out with belt driven handpieces, and temperature rise has not been measured with the air turbine handpiece and its extremely light cutting pressure. Our study would seem to indicate that temperature rise, from a clinical standpoint, is not a problem when using air coolant rather than water. In order to be sure that undiscovered pulpal damage is not being caused by using the airo-

tor "dry," there is need for a study involving histological examination of the pulpal tissue.

The air turbine handpiece, because of the extremely light pressures used in cavity preparation, places considerably less strain on the operator. To capitalize on this improvement it is essential that complete visual access to the site of operation and good patient control be obtained — both may be obtained with the routine use of rubber dam. Under these conditions, as reported by our operator, the air turbine handpiece "takes the irk out of work."

The cost of maintenance, upkeep and burs for this new type of handpiece is not a problem.

This new handpiece is most suitable and valuable in making good dental patients out of our younger age children.

ACKNOWLEDGEMENTS

I wish to thank Dr. N. F. Trowbridge and his assistant, Mrs. E. Stevenson, for their careful recording during the thirteen months of the study.

The airtor was made available to us by the Provincial Department of Health through the National Health Grant program.

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Crossroads 1960

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It has been my privilege during the past ten years to serve the profession in three programs dealing with attempts by the profession to influence the public along lines which were felt to be in the best interests of dental public health. These were, fluoridation of water supplies, school dental services, and thirdly, investigation of the illegal practice of dentistry and its control by law. As a result it has been my good fortune to have a great deal to do with public and government officials as well as many groups of interested citizens. Many serious and intimate discussions have led me to form some definite, if different, ideas about the position of Dentistry under the Law as it applies to 1960, different from the ideas I used to hold myself and different from the ideas expounded by many of our confreres and even some of our official bodies.

The problems of dentistry in persuading the public and governing bodies to institute fluoridation of public water supplies, to spend tax dollars on various phases of Dental Public Health or to give the pro-

fession strong legislation to control the illegal practice of dentistry, are all basically the same and, as anyone can see, are not by any stretch of the imagination confined to this province or country.

A recent Editorial in the Journal of the American Dental Association discussing legislation in western Canada, shows an attitude of which many of us have been guilty. This attitude attributes all our basic troubles to a misinformed public and irresponsible Legislators. It is my firm belief that such an attitude could not be much further from the truth and moreover, that the use of such an argument, or excuse, strengthens the case of those who are complaining most about the part we are playing in society at the present time.

A statute of Law granting a professional group the right and privilege of setting standards, disciplining its members and prosecuting offenders under that Law, is, in our present society, looked upon by the majority of people as a "monopolistic" type of statute setting up a "preferred"

group in society. It can only be condoned and accepted by society if it is proven that it is for the good of the majority. Who is to argue if legislators representing the people require "proof of merit" from professional groups to whom they have granted this "preferred" status. If you need proof of this concept you have only to ask any dentist or other professional man his opinion of legislation granting privileges of a special nature to groups such as unions or commercial enterprises. In brief we as individuals think the same as other people but will not face up to the fact that we are in a position comparable to any other privileged group with the responsibilities implied by such a status.

Many professional groups have encountered difficulties in maintaining their privileged position not only through this failure to realize their responsibilities on a broad scale, but by trying to gain concessions or prove their merit in the eyes of the public by the use of projects such as fund raising for lobbying purposes, the hiring of non-professional spokesmen, the retention of high-powered public relations experts and other business gimmicks. These methods can only be justified if we have no real case or are trying to act like a union or business combine. Legislators and the well informed public are fully aware that we are preferred groups for the sole reason that it is in the public interest that we have this legal status. Any attempts on our part to try to "sell" anything or manoeuvre our legal status in a way that borders on the suspicion of self-interest only harms our cause. There has been enough of this kind of thing already to make the professions suspect in the eyes of the public to the extent that we seem in danger of losing some of the preferred position we now hold.

One should state here that wide experience and study of our situation has, I think, proven that individual dentists are as well thought of as any other professional men and that perhaps the dentist-patient relationship is as good or better than that of the similar relationship between many individuals in other profes-

sions and their public. Notwithstanding this fact, we seem to have fallen down in the eyes of the public in fulfilling our prime responsibility, this being to look after the dental health of the population by providing dental services at what they consider a reasonable cost and in the amount or availability that we have persuaded them they should have.

Moved by the highest professional motives, our profession has co-operated whole-heartedly with the other health groups in trying to educate the public to the belief that modern health care is, if not the sovereign right of the individual, at least one of the most important benefits of modern society.

Spurred on by high idealism we have struggled with some success to raise standards of practice, levels of professional conduct and the educational requirements of both the prospective dental student and the dental graduate.

No one argues that these aims and ideals are not part of our implied responsibilities, nor does the public expect us to do otherwise than we have done in this direction; the question is asked however, as to how the benefits of these programs are being passed on to the people. This is the end result that is the true measure of our "merit" as a preferred group.

A personal concept of dental practice built on the principle of the fewest possible patients at the highest possible fees with some small contribution of time to charitable work, cannot be condemned as a personal ambition for any one man, implying as it does better dentistry under ideal conditions. Such a concept applied to the profession as a whole could hardly be more disastrous, especially when the goal is reached through the route of a scarcity of professional personnel and not on the basis of qualification, experience and ability, for it ignores the vast majority of the citizens in our society who in the end govern our fate.

Dentistry, of the professions, is accused of having made the least effort to adapt itself to a changing world. Medicine, law and dentistry have all come through the

same social evolution but dentistry alone is still carrying on in the same routine of practice.

Law has developed specialists, group practice, the use of students and clerks, and the use of business machines to a marked degree, but more important in this discussion law has lost or voluntarily passed to others many of the duties that used to be its sole prerogative and we are told, is still losing to others many of the technical procedures that they once argued could be done only by them.

Medicine has made even greater strides away from the individualistic approach to practice. Group practice with the employment of all kinds of technicians is common place and where group practice is not practical the medical man has hospitals with even more complete auxiliary services to fall back on. A surgeon in a modern hospital will have from ten to one hundred people involved with him in carrying out his operation. These people range from personnel as well qualified in their own field as the surgeon is in his, to the person who moves his patient or scrubs the floor. Medicine has progressed to the point of specialization where graduate nurses have become a group with auxiliary help such as practical nurses and orderlies, who do a great deal of the routine work formerly done by the graduate nurse. It is a fact that many of the auxiliary personnel working in the medical profession today, under the supervision and control of the medical practitioner, are as well educated and trained in their own fields as he is in his, but they continue to remain under his supervision and as part of a well-organized team.

There is much discussion in medicine today that a further step should be taken, namely, to downgrade the medical course for general practitioners, who would have the chance, if they were qualified and able, to go on to extra years of specialization, which in turn would be increased in scope. It is agreed by many that this is the answer to both the problem of training more doctors and of providing better over-all medical care.

What of dentistry?

We have had only two groups of auxiliary people with real qualification — the technicians and the hygienists.

The technicians have long since left the control and supervision of the dentist, to become a commercial operation selling, more often than not, a product rather than providing a service and in many cases promoting a real commercialism within the profession itself. A complicating factor in relation to the technician group is the lack of legal status, standards or even formal organization, that has plagued them since they became separated from the dental office.

The dental hygienists, a well-trained and capable auxiliary group, have done little to change the trend of dental practice due perhaps to their limited scope which has tended to place them only in offices where the fees are above average. While the contribution of this group has been excellent in a specialized way it does not seem to have done anything to broaden dental treatment for the public at large.

The commonly employed dental assistant, trained usually by the dentist in the office, is only now becoming a group with standards and is still a long way from a well-organized body with uniform qualifications across the country.

Figures tend to prove that at least 12% of the dentists do not employ even a dental assistant. Whereas both the medical graduate and the law student come from an atmosphere where they learn the use of, and need for, trained helpers, the dental graduate does not have this advantage. It is suggested that we have attacked the auxiliary help problem backwards in not creating the demand for them by training the dental undergraduate to use them, to the extent that he would not be without them at any time.

From the standpoint of the non-professional person the argument here is not whether some less qualified person can do some of the work as well as he can, but whether people as well qualified as the dentist can afford to do many of the things we now do. It is very difficult also

to give these people a logical explanation as to why we are willing to allow a hygienist to carry out one procedure in the mouth but will not allow any other intra-oral procedures to be done by auxiliary personnel under our supervision and control.

Seemingly valid arguments can be put up to the effect that if the dental graduate were taught to use the dental hygienist and dental assistant to their full capabilities and taught in such a way that he insisted on their becoming part of his practice set up when he graduated, this in itself would add one third to the manpower of the profession without doing anything else.

The public, in my belief, are more interested in an increase in the number of practicing dentists than in an extension of auxiliary help, but the latter would be readily acceptable to them as well. There are strong arguments for an increase in the number of dentists and they can be noted later.

The first and foremost duty of the schools and the profession is to see that the level of the graduating classes is kept in some set relationship to the increase in population. If this means lowering the standards a bit we in Canada can point to the contribution made, both to the profession and society, by the graduates of the accelerated classes handled by the dental schools after both great wars. A number of men are still practicing who gained their license under the grandfather clause of provincial dental acts. Not only do they not stand out as failures but their contribution in many cases, both to the community and the profession, has equalled that of many men with formalized education. It is difficult to argue that the dental classes should be kept below the capacity for the sake of standards when you have a Professional Act, for the public is immediately suspicious of this motive and is not slow to point out that we have produced large classes before under the pressure of post-war rehabilitation schemes.

The graduating classes have remained at a fairly constant level over the past five

years; the population has not. No new facilities are planned at this time, the increased capacity for graduates created at three Universities in the past several years will be a help but will in no way compensate for the population explosion anticipated or perhaps now upon us. We are only compounding our trouble by falling behind in this regard and it is also very dangerous to have the public and the profession convinced that entrance requirements are too strict. Therefore regardless of any other attack on the problem, we should increase our capacity for students and standardize our entrance requirements at a fair level which will not create public antipathy.

If these two things were done and we still need more manpower the next step would be to try and find out how many more people we need in the profession. This depends on many factors the principal three being:

First: Compulsory, voluntary or state controlled treatment. Groups like the armed services and school children under a school dental program need a ratio of dentist to patients that has no relationship to voluntary treatment or ordinary practice and a state controlled scheme would have a different requirement again.

Secondly: Under present conditions the economic level of the population is a factor.

Thirdly: The extent to which the general public is educated to demand treatment.

A cursory study of the present Canadian situation shows right away that the need or demand varies greatly across the country.

The four great metropolitan areas of the country have a difference of from 1 to 1600 to 1 to 2300 in dentist population ratio, and still we hear complaints from the public in these areas about shortage of dentists and high fees, denoting perhaps both good economic conditions and better demand for services.

It is well known that recent graduates in some of the cities are turning away patients and that it is difficult to find anyone to refer patients to when they move from

city to city. The not too illogical conclusion of the public is that they are being kept from having the desired care with the accompanying suspicion that such care, when available, is at a high fee level, artificially set, due to this shortage.

Subtracting the potential patient population of Greater Winnipeg from the dentist and potential patient population of the whole province leaves a ratio of 1 dentist to 6200 people for the rest of the province, adding the irritation of time and distance to the difficulty in obtaining appointments.

From the standpoint of the public there are not enough dentists until they have freedom of choice and the privilege of treatment at short notice, when they want it. The laws of a free economy would then govern the level of fees and quiet this complaint.

From the standpoint of the profession no one would argue that it would be economically feasible to greatly increase the number of dentists in Newfoundland where the 1-10,000 ratio prevails coupled with an average net income figure lower than Ontario which has the best ratio in Canada. On the other hand it is readily admitted in Manitoba that the pressure is so great that many men spend a large percentage of their time on what is generally considered emergency type of treatment while an almost unlimited amount of work that could be done goes undone.

This brief discussion of the dentist patient relationship points up some of the fallacies in using it as the criteria for the number of dentists needed to serve the population; it provides some strong arguments for keeping up the ratio of graduates to population at an established average and has and will be used to argue for extension of auxiliary services.

A point that cannot be overlooked is the fact that income tax statistics do not show an increase in the net income of dentists in relation to other professions and certainly not in relation to any shortage of dentists during the past few years; this might also be used as an argument for an increase in the use of auxiliary personnel

and a more efficient operation of the dentist's office.

No purpose would be served from the standpoint of the public or profession in suggesting a solution to the problem of expanded availability of services that would compromise either the educational standards, social status or the legal status of the profession. Therefore, it appears, that we must choose between a combination of expanded auxiliary services and larger graduating classes or one of these approaches by itself.

Any advance in the field of expanded auxiliary services requires a resolution of the great differences of opinion within the profession on this question. The profession has given lip service over the years to the idea of expanded auxiliary services but hundreds of articles and committee meetings by generations of dentists have accomplished nothing but the formation of the dental hygienist group whose activities are extremely restricted. The principle of this type of auxiliary does nothing for the basic problem and does in fact have a tendency to make dentistry more expensive for the patient, so while there is no argument about the value of their services to the dentist, there is a big question as to their value to public at large.

A strict legal interpretation of the activities of the almost completely casual group, the dental assistant, would show that there is more illegal dentistry done in the dental offices by them, under the guidance of the dentists, than is done outside dental offices. The profession has chosen to ignore this fact or at least has failed to recognize it to the point of giving this group proper training standards and a legal status that could be controlled. We have made no real investigation to find out if we should have all assistants doing as much as they do in many offices where they have become a real right hand to the dentist at the chair.

The Canadian Dental Association, as recently as last year, endorsed the principle of allowing auxiliary personnel much wider scope in their activities, as long as

they were under the direct control and supervision of the dentist. Opposed to this is the position of the American Dental Association which has a stand pat attitude that, in the words of one past president, "is dictated more by vested interests than by the merits of the question."

From the viewpoint of the informed person outside the profession the whole discussion is without logic in the light of our recognition of one type of auxiliary trained to do one intra-oral operation and our refusal to recognize that auxiliaries could be trained to do other intra-oral procedures.

The other side of the question about auxiliary help for the dentist, the opinion of the public, should not be ignored by the profession. All the advantages of this type of help to the profession receive a jaundiced appraisal from many outsiders on the suspicion that their adoption always results in an increased cost of service and a more grandiose basic individual, the professionally trained person. There are important people and groups of people in society who argue that it is better from the standpoint of the patient and the public welfare to stay away from the auxiliary type of expansion. They insist, further, that the higher the pinnacle on which the basic person in the profession is placed, the greater the danger of eventual fragmentation of the profession by the advent of lesser-trained people desiring to take over part of our duties as their own. Such a situation has actually developed in several parts of the world where, by training and position attained, dentists have priced themselves out of the market place in relation to ordinary dental procedures, with the result that there are different levels of dentistry practiced, to the detriment of both the profession and public.

The only other choice in this dilemma is the graduation of more dentists. If we cannot keep up the graduate-population ratio of the past years, we obviously cannot increase the number of graduates to expand our services without some drastic

changes in our thinking. In addition we are faced with real competition for both the better students and the tax dollars to provide training facilities for these students if we could get them.

Related to, or equated with, the ordinary silver filling or single extraction, any upgrading of our educational standards can only lead us further away from fulfilling our responsibilities to the public. Inherent in such action is a subsequent economic effect on dental practice, to say nothing of the deterrent to applicants for the dental course. The public are not unaware of the cause and effect situation which develops when standards go beyond certain levels.

A profession not matured enough to know whether it is Dental Medicine or Dental Surgery may have trouble in adjusting its thinking to changes in educational standards but in the opinion of many we can count ourselves fortunate that the state, which provides the facilities and a large share of the training costs, has not interfered before now with the standards we have set. There are signs in some areas that they will not resist much longer, the great pressure being put on them to do so.

It would seem to be true that what the public wants is more ordinary dentists. They have no desire to limit the extra well-trained people in number but they want the ordinary general practitioner first and foremost and neither auxiliary substitutes nor a highly specialized dentist will fill the need, in their estimation.

An evaluation of what we, as a profession, can do to satisfy the demands of society might be stated then, in the following way:

1. The graduation of a larger number of dentists by the accelerated course route.
2. More specialization or at least more chance for higher qualification after graduation.
3. Much more training for the dentist in the use of the presently accepted types of auxiliary personnel.
4. A greatly enlarged program for the

training of these auxiliary people on an ordinary level, with their proper integration into the format of dental practice as the keynote, rather than enlargement of their responsibilities.

Regardless of the professional arguments pro and con this would seem to be the answer desired by the thinking public from the profession and it must never be forgotten that it is within the power of the public to bring such changes about on their terms if we do not do it our way. The leaders of the profession have a duty to recognize that there has been and is now a great deal of thought being given to this question by many non-professional people who have, not only the right, but the ability to judge as well as we can, the place the profession should occupy in society. It can be stated without hesitation that action will be taken on grounds of the public interest if we show lack of

ability, hesitation or reluctance to solve this problem ourselves.

Finally it should also be stated without equivocation that we must never intimate that we are following a course of action at the dictates of someone outside the jurisdiction in which we have our legal status, be it our own Canadian Dental Association or the American Dental Association. In our democratic society there is no more jealously guarded right than that of the law-making body alone to decide what is in the public interest in all areas under their jurisdiction. The professions must not only respect this concept but having been delegated certain responsibilities under the law must do their best to guide and counsel the law-making body in professional questions, as agents of that body, not as pressure groups.

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CHATEAU LAURIER
OTTAWA

The Role of Dentistry in Public Health*

HOWARD ZUCKERMAN**, Clayton, Missouri

INTRODUCTION

Dentistry today has become more cognizant of its responsibility to community life than ever before. No longer is dentistry a mere occupation of professional men, concerned only with the study of dental science and the practical application of this knowledge. It now must expand its outlook into the overall social structure of a community. A broader concept must now include social dentistry and its effect on the public in general, and secondly, an effective relationship of the profession to the community's social structure must be formulated.

"Just as the teeth are an integral part of the human system Dentistry is an integral component of our social system".⁴

Striving towards the advancement of the public's general health has always been the basic objective of the public health theory. Today, dentistry is considered an integral part of the general public health picture, thus elevating itself as a healing profession as well as becoming an important part of the community's social structure.⁵

The doctrine of public health is self explanatory: namely, the science and art of preventing disease, prolonging life and promoting physical and mental efficiency through organized community effort.⁶ A public health program attempts to eliminate a health problem that is widespread

and affecting the health and general welfare of a large section of the population. Dental health problems are quite widespread, ranging from caries, periodontal diseases, malocclusions, to various types of tumors, cleft lips and cleft palates.²⁰

CARIES

One of the dominant major diseases on the public health list is dental caries, more commonly referred to as decay. Since the quantitative nature of dental disease is not always fully appreciated, a short discussion of its epidemiological characteristics is necessary to present a clearer concept of the dimension of oral disease as it occurs in population groups.

Caries is such a prevalent disease that the public thinks nothing of it. They have come to expect it. Tooth decay has its onset soon after the teeth first appear in the infant's mouth, continuing throughout the individual's life span. The disease therefore gets off to a quick start, before the child is mature enough to understand the nature of the problem, and sometimes even before he is old enough to receive corrective treatment.⁷

There are three distinct phases of the dental caries period from childhood to adulthood. First is the deciduous or primary period up to age five. During this period decay is limited to primary dentition. The next age group is from five to twelve. Here the caries problem is of a mixed nature, due to the changing of the dentition. The third and last phase occurs after twelve years of age, and here the decay exists entirely in the second or

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permanent teeth. From this point on the decay problem exists until the termination of the individual's life cycle.

Dental caries differs from the other major diseases of public health. Most of the other diseases have some terminal point, at which either spontaneous cure, residual abnormality, or death will occur. This is not true of the dental disease. It does not cure spontaneously nor does it become dormant. Therefore it constantly exists on the public health statistical charts.⁷

Treatment cannot be conducted on a group basis, nor by auxiliary personnel, nor by prescription. This treatment must be performed by an individual dentist, with special and expensive equipment over a period of time. Therefore two dominant problems become evident. First, the number of such carious lesions that are occurring, and secondly, the fact that each lesion needs the services of an experienced trained dentist. The only treatment is quite technical and time-consuming, and therefore relatively expensive for the public in general. No wonder, then, that such a gap exists between the rate of caries occurrence and the rate at which it is treated.⁷

The A.D.A. has estimated that if all the young people in the U.S.A. between the ages of six and eighteen were to be given the necessary corrective treatment to all carious teeth, 280,000,000 fillings would be needed.² Adults would need an additional 425,000,000 fillings to restore their mouths, and an additional 138,000,000 fillings would be required every twelve months to restore those teeth newly damaged each year. With these figures in mind, it becomes quite evident that dental caries is a dominant major disease under public health consideration.

PERIODONTAL DISEASES

While it is true that dental caries is a vast major problem, it is not the only concern of the dental or public health profession. Periodontal diseases are equally

prevalent throughout the general public. These diseases include those local or systemic disturbances of the supporting tissues which may be morphologic, infectious, traumatic, or degenerative. It is estimated that 5-80% of school age children have some kind of abnormal gingival condition.^{16,17} In adults this figure ranges from 10-100%.¹⁴ The increase in these figures approaching later life is fully explained when one realizes that periodontal diseases are essentially degenerative in nature, therefore increasing with age. After 35 years of age, patients lose more teeth as a result of periodontal diseases than from any other single dental disease.

A thorough examination of the patient is an indispensable prerequisite for periodontal diagnosis. Included in this examination is an overall appraisal of the patient, a consideration of the principal complaint, a history of any previous local or systemic disease, a complete listing of dietary intake and nutritional status, X-ray examinations, study models, and various other diagnostic aids utilized in determining an effective treatment for any oral or systemic disease.⁶ Periodontal diseases, like dental caries, are not spontaneously cured, nor do they remain dormant. They too require expensive and time consuming treatment for their full control.¹ Since any degenerative disease cannot regenerate itself, the immediate need of treatment is quite evident.

MALOCCLUSION

Malocclusion presents still another problem to be faced by the profession. This defect has many repercussions in the individual's adaptation to his social background. A reasonable estimation shows that approximately half the children of school age need some sort of orthodontic treatment.⁷ The necessary treatment for this dental deformity is so time-consuming and expensive, that it is neglected even in actual dental practice, as well as in the public health picture of corrective treatment. Orthodontic therapy cannot be per-

formed by the ordinary practitioner, but requires the services of men more highly skilled in the intricacies of tooth movement and stabilizations, therefore creating a still wider gap between occurrence and treatment.

CLEFT LIPS AND PALATES

The fourth dental condition existing in the population, cleft lips and palates, gives us an accurate picture of the overall treatment required for the general public. One out of every 800 youngsters is born with this serious dentofacial defect.⁷ The extent of treatment is so vast, requiring such time-consuming procedures, that one can easily understand the total dental problem existing in our population.

Statistics compiled by the A.D.A. during the year 1958 reveal that there are only 100,000 practicing dentists — roughly one dentist for every 2000 persons in the United States.¹³ In Canada, the ratio of dentist to population is even greater. Net increments to this figure annually are barely keeping pace with the population growth. It seems quite unlikely that, in the foreseeable future, there will be enough dentists to care for the dental needs of all the people. The only practical solution to this problem lies in the prevention of a major portion of the dental diseases. Therefore to augment the actual dental services required there exists a genuine need for overall community or nationwide programming to achieve ultimate dental health.¹³

Dentistry's role in public health is threefold:

1. The prevention of dental diseases and defects by early diagnosis and the actual treatment of the four major dental defects, together with oral carcinoma detection and treatment of traumatic injuries to teeth and maxillary processes.
2. The education of the public. The dentist can no longer be satisfied in merely the treatment aspect of dentistry. He now must thoroughly consider prevention through education. The public must be

properly instructed and motivated to desire absolute dental health.¹²

3. The accumulation and evaluation of records and data. The public health concept of epidemiology plays a most important and significant role in the overall picture of caries control. Public health officials once viewed dental disease as their most difficult problem solely from a standpoint of the staggering number of people afflicted with various dental problems and the inadequacies for combating this problem. Dramatic advancements in discovering methods for preventing decay were made possible by public health dentists and dental research workers collecting and evaluating scientific data. Epidemiological methods therefore, led to the caries-experience index, making it possible to determine the most efficient preventative measures and to calculate their overall efficiency.⁹

Through this public health research in conjunction with the vast amount of experience collected from the dental practitioners, three important preventative measures have been utilized. These measures, fluoridation, proper brushing technique, and proper diet and nutrition, are preventative in nature, thus eliminating the origin of dental decay, rather than the actual decay itself.

FLUORIDATION

Fluoridation deserves a prominent place in public health achievements, ranking in importance with milk pasteurization, water chlorination, anaesthesia, antibiotic therapy and the Salk Vaccine. The adjusting of a community water supply to a desired fluoride content has shown results of 40-60% reduction in tooth decay. Sodium silicofluoride, sodium fluoride, and hydrofluorosilica acid are the most commonly used fluoride components. The optimum concentration of the fluoride ion is extremely low, one part of fluoride for each million parts of water. Therefore, because of its easy application for the masses and its relatively low cost, ranging from 5-15¢

annually per person, fluoridation has proven to be a most effective weapon in the prevention of decay.¹⁴

Controlled scientific surveys conducted by the U.S. Health Department have proven that fluoridation in a community water supply can afford almost complete protection from tooth decay for the young developing child, and partial protection for the older more matured child. The exact mechanism of protection has not definitely been established, however scientific experimentations reveal that consumption of the fluoride ion during the period of tooth development produces a tooth structure that is more resistant to mouth acids. It is also further believed that fluoride consumption may inhibit enzymatic or bacterial processes which are involved in the formation of mouth acids.⁹ The fluoride ion does not affect the taste, odor or color of the water, nor does it cause any interference with the domestic or industrial utilization of the water.⁹ Even with all these points in its favour, many communities still refuse this invaluable assistance for their children, due to bogus fears and superstitions. Public opinion has always been slow to accept new discoveries and reforms. However, they gradually succumb when the realization of the benefits afforded to them becomes known and proven. Therefore, the role of the dentist concerning this fluoridation treatment is mainly an educational one. He must attempt to motivate the public's desire and understanding of this vital health measure, in order to speed the progress and acceptance of this treatment.

The private practitioner must extend this motivation further than the limited scope of his individual practice. Through his various professional societies, social clubs, church groups, and other meeting grounds, his influence can be of immeasurable importance.²⁰ With proper education and motivation it should only remain a matter of time before the entire population will realize the benefits of fluoridation and will adapt to this method of treatment. Certainly a preventative procedure which offers improved dental health and

appearance, and which lowers the need for dental care, deserves a high priority in any community planning.

BRUSHING TECHNIQUE

The second useful procedure at our disposal is proper utilization of the toothbrush. Proper brushing technique is an effective and relatively inexpensive asset in the maintaining of oral cleanliness and in the prevention of periodontal diseases. Besides its obvious benefit in removing food debris and other cariogenic agents, brushing also acts as a valuable stimulation to the oral tissues. Proper stimulation of these supporting tissues is extremely important in the prevention of periodontal involvement. Proper instruction in brushing, therefore, is an essential requisite for the public health programming as well as for the private practitioner.⁶

DIET AND NUTRITION

The third and final over-all preventative procedure is instruction in proper diet and nutrition. According to Dr. Glickman's "Clinical Periodontology", "Diet and nutrition play important roles in influencing the periodontium".⁸ Mastication of hard coarse foods stimulates the oral tissues and leads to a general elevation of the public's general health. Proper balance of diet allows for the necessary ingredients needed for sound growth and maintenance of oral structures. The dentist can assist in planning properly balanced diets by distributing literature to his patients. These public health booklets advise the patients as to the requirements of a nutritional yet economical diet.

Proper utilization therefore of these basic concepts, namely, fluoridation, tooth brushing technique, and a sensible planned diet, will assist the dentist and the public officials in bridging the almost insurmountable gap between occurrence of decay and availability of treatment.

ROLE OF PRACTITIONER

Despite the various problems that have blocked his path, the private practitioner

is trying to elevate the over-all dental health of the population. The private practitioner has a genuine concern in the interest of the population's dental problems, and he feels that he is contributing to a solution of these problems, thereby discharging his full duty to the public.¹⁸

A major drawback to this concept, however, lies in the scope of the practitioner's interest, which is confined to his own patients in private practice and not to the community in general.¹⁸ "With the growing realizations of dental health, the public is beginning to appreciate and realize the amount of work that is necessary for them. The dentist must meet this challenge and perfect a program, nationwide in scope, which will create in the heart of every man, woman and child, a desire for dental health and provide the means for obtaining the dental care necessary".¹⁸

The A.D.A. council on dental health and the establishment of many committees and councils have provided a working mechanism, allying public health dentistry with the private practitioner. The private practitioner can thus play a major role in the over-all public health program of his community and work in conjunction with the public health officials. As mentioned previously, the practitioner's influence is vitally needed to help perfect a community planning on a scientific basis. Through his local dental organizations he can aid in reorganizing and revamping dental educational pamphlets and literature which will ultimately assist in keeping the oral health of his community at a high level. "The private dentist must realize that this obligation of his is not confined to the educational phase of public health dentistry, but involves an interest and participation in the inauguration and administration of a dental care program".¹⁸ "It is the duty of every dentist engaged in private practice to familiarize himself with the dental needs of the particular group to be served, and with all details of program now in operation, and of those under consideration or in the process of being organized, so as to be able to make an intelligent appraisal of them".¹⁸

The private practitioner may also go one step further in his community programming, namely, by assisting in a local dental health program for schools. For only through the absolute care of the children will the over-all standing health in the community be raised. The following program as outlined by the A.D.A. is designed as a valuable aid to dentists as well as to prospective patients at the primary school level.³

1. To help every child appreciate the relationship of dental health to general health and appearance.
2. To help every school child appreciate the importance of a healthy mouth.
3. To encourage the observance of dental health practices, including personal care, professional care, proper diet and oral habits.
4. To enlist the aid of all groups and agencies interested in the promotion of school health.
5. To correlate dental health activities with the total school health program.
6. To stimulate the development of resources for making dental care available to all children and youth.
7. To stimulate dentists to perform adequate health services for children.

Responsibility of such an extensive dental health program rests mainly with the school administrators and the dentists in the community. I shall, however, only attempt to discuss the dentist's role in this vast undertaking. The dentist may assist in the training of auxiliary personnel such as the dental hygienist or the dental nurse. The dental hygienist may therefore be able to perform the following functions:

1. Interpreting children's dental defects to school personnel and parents.
2. Assisting children and parents in making plans for dental correction.
3. Assisting parents who cannot afford to pay to obtain dental treatment for their children.
4. Assisting teachers in their dental health instruction programs by providing au-

thentic teaching materials and helping plan dental health activities for the classroom.

5. Keeping records and reports of inspections and corrections.
6. Assisting in parent education programs through the P.T.A. and other similar organizations.
7. Assisting in in-service training programs for teachers in dental health.

The dental hygienist may also give dental prophylaxis, assist in organizing and conducting dental inspection programs, and give topical applications of NAF where state laws permit her to do so. All of these functions would be under the direct supervision of a dentist with the full approval of the local dental society. The training of such auxiliary personnel increases the actual working hours in which the dentist can best be utilized. Auxiliary personnel can perform the functions of lesser importance, leaving the dentist more time for the actual utilization of his resources and skills.

The dental consultant in such a school program serves in an advisory capacity to the school officials. He gives professional advice in special dental problems of children, supervises the work of the school dental hygienist, and maintains liaison with the local dental society. The consultant may be the dental director of the local health department or a practicing dentist with a special interest in children's dentistry.³

Therefore in order to compensate for the great shortage of dental manpower, health educators, sanitary engineers, public health nurses and nutritionists, are assisting the dental profession in combatting dental disease through improved methods of health education. In order to assist these various helping hands, the dental profession is developing methods and arranging facilities to train auxiliary personnel to assist dentists, and is also training dentists in the effective utilization of their extra hands and minds.¹

To facilitate dentistry's role as an integral part of the social structure of a community, the education of the dental

student in public health must not be overlooked. For to have a private practitioner expand in his scope of interest to embrace an entire community instead of his individual patients, one must sow the seeds in the dentist's embryonic stages of learning.

Dr. Hasty has levied two main criticisms against the dental education today as it exists in the United States and Canada.

1. Lack of professional philosophy and devotion to service, which the public traditionally associated with the health profession.

2. Inability to meet effectively the duties of public relations in professional life.¹⁰

Dr. Hasty then goes on to state that the practicing dentist has an absolute responsibility of working towards a Utopia in dentistry, namely, total dental health improvement. Professional philosophy, ideals of practice, and constructive public relations are fundamental concepts to a successful professional career.

The ultimate aim of dental education should be designed to make the dentist more of a community-minded healer, thinking in terms of the over-all community health, rather than in terms of a self-limited private practice. The American Association of dental schools in March 1957 outlined five basic requirements that should be met in a public health teaching program.⁵

1. Ability to cope with the duties of public relations.
2. Administrative ability and fiscal knowledge.
3. Capacity to guide the public interest in dental health problems.
4. Ability to reduce technical facts and abstract ideas into terms understandable by the layman.
5. Application of epidemiological concepts to dental diseases.

Dean Buhler of Emory University Dental School states that a public health course at the undergraduate levels should demonstrate the close association between the quality and extent of dental public health in a community, and the level of private dental practice. Increased awareness and better understanding of dental

problems succeeds in bringing the private practitioner additional patients, anxious to correct their various oral problems. Thus, public health service, instead of decreasing the income of the practitioner, increases it greatly. "If nothing else were to move some dental practitioners towards encouraging a more effective educational and participational program in public health, certainly this dollar and cents approach ought to touch the hearts of even the coldest.⁵ Dentistry in public health is probably one of the most effective instruments whereby we can bring the profession into a comfortable and realistic state of health awareness with all of the various health professions".⁵

The basic objective of this thesis is to enumerate the various dental problems as they affect the social structure of the community and to propose some basic solutions. "The dental health problem, if solved, will be solved by each dentist becoming concerned about the need for an improvement in his own community, the need for the use of all known preventative dental measures, the need for more adequate dental research, and finally the need for each dentist of a community to work with his fellow practitioners, with public health officials, with school people and citizen groups, meeting the problem through some type of organized community effort".¹⁹

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"Happiness is nothing more than good health and a bad memory."—Dr. Albert Schweitzer.

ABSTRACT

The Enzymatic Biosynthesis of RNA and DNA: A Review

BERNARD RAUCH, D.D.S.

Two notable steps forward in basic medical science were the enzymatic synthesis of ribonucleic acid (RNA) and of deoxyribonucleic acid (DNA). Dr. Severo Ochoa, Chairman of the Department of Biochemistry at New York University, and Dr. Arthur Kornberg, Executive Head of the Department of Biochemistry at Stanford University were awarded the Nobel Prize in Physiology and Medicine for this discovery.

DNA and RNA are two complex organic chemicals that are found within all of the cells of living organisms. DNA is the chemical that functions as the carrier of hereditary qualities. It has been described as providing a master pattern in each cell, allowing that cell to reproduce itself in its own image. RNA appears predominantly in the cell cytoplasm and nucleolus, acting as a control or template for protein production, vital for the elementary processes of life. Further, it is thought that in some viruses, RNA also passes on hereditary "instructions." Kornberg's main contribution was the discovery of an enzyme which promotes production of DNA

from much smaller organic molecules. Ochoa, in 1955, found an enzyme in *Acetobacter vinelandii* that performs a similar function for RNA. He termed the enzyme a polynucleotide phosphorylase. The enzyme requires magnesium ions for activation. In 1956, Kornberg found his DNA synthesizing enzyme in a common intestinal variety of bacterium *Escherichia coli*. Experimental evidence regarding the action of this enzyme indicates that it catalyzes the synthesis of a new DNA chain in response to directions from a DNA template.

The research was conducted independently by Kornberg and Ochoa and has made possible the use of these enzymes for synthesis of compounds that appear to be virtually identical with DNA and RNA physically and chemically, although they have not yet been shown to be biologically active. This important work will undoubtedly pave the way towards a better understanding of the numerous questions about cellular reproductions and protein synthesis.

EDITORIAL

Public Hearings on Fluoridation

Where is everyone? This was the first question in the minds of the dentists who attended the public fluoridation hearings held recently in Toronto. In order to assure thoroughness, fairness, astuteness and goodness knows what else, the government of the Province of Ontario some months ago appointed a Committee possessing almost the authority of a Royal Commission and a virtually limitless budget to study all aspects of the entire question of fluoridation. Although it was generally realized at the time that this procedure would be time consuming and cause many costly months of delay to communities desiring better dental health now and not later, no health organization spoke disparagingly. It would be only a matter of precious time until the irrevocable proof that boiling water will cook eggs was forthcoming. The findings of this Committee assuredly would be heavily in favour of fluoridation and the thoroughness of their methods would grant the few

whose concerns were genuine an opportunity of finally dispelling their fears. The others who merely stood in fear and awe of progress would have to direct their energies toward the hampering of some other exciting advancement.

One could reasonably expect after the years of furore created by anti-fluoridationists, that the public hearings where they could beat their drums in unison, would require a detachment of police to control the frenzied mob. Yet in a room no larger than an average sized classroom there were seldom more than a dozen present although the meeting was held in a city of close to a million and a half people. The dentists present were aghast at the paucity of numbers and even more surprised to discover that the worried few were by no means all from Ontario. Indeed their numbers had been swelled to a dozen by people from as far away as the U.S.A.

Yet another astonishing aspect of these

public hearings was the chronic indifference of those presumably gravely concerned individuals to the sound information offered by the expert witnesses. Instead of listening and learning, many were conducting whispering campaigns probably to muster their courage for an emotional outburst. The health personnel present were sincerely discouraged by the sparse public interest.

Those who came to the meeting to rejoice in the sound of their own voices were also disappointed for no one was allowed to stray from the subject. Even the im-

ported 'experts' opposed to fluoridation were disciplined to direct their remarks to the issue and must have returned home sadder but wiser.

These observations are made without malice for no one can deny the desirability of a thorough investigation. However it is important to realize that the advantages of fluoridation are delayed and in some places even denied the majority of people by a very few people with very big voices. This situation assuredly must have its counterpart in every sizeable community.

CORRESPONDENCE

Reader Leslie comments upon a previous review of the book Fluoridation — Errors and Omissions in Experimental Trials by Philip R. N. Sutton.

The author of this book, Dr. Philip R. N. Sutton, is Senior Research Fellow, Department of Oral Medicine and Surgery Dental School, University of Melbourne.

This book of seventy-seven pages was reviewed in the Canadian Dental Association Journal (26; 357-9, 1960) in a rather slighting and curiously one-sided manner. It is felt that for the benefit of the members of the dental profession who may be interested in some clear and factual information on research problems of Fluoridation, a more comprehensive review should have appeared in our Journal.

This presentation is a well organized and carefully studied work of analysis of the published results of the experimental trials with Fluoridation of Public water supplies as an anti-cariogenic method of treatment. The research work emanating from four population centres, known as the Grand Rapids, Evanston, Newburgh, and Brantford experimental areas has now been profusely documented in the dental magazines with

articles, statistics and tables. In fact some of these (Brantford) have even issued final reports.

It is a significant and important event when such a new book is published by a research worker, where the author makes a sincere effort to be objective in his evaluation of results published by other dental public health administrators and research workers.

Many of these public health personnel recognize that some phases of public health work are not making the progress expected, or that the interest in the research project is lagging and is not increasing at their former rate. They, nevertheless, do not seem able to accept the factual reasons for this failure. They become too readily involved in emotionally based motivation.

That this is the case seems obvious when one reads the opinions of the reviewer of the book in the above mentioned volume of the journal.

In Part I of this book, Dr. Sutton attempts to evaluate, objectively, with the assistance of the co-author Sir Arthur Amies, "some statistical observations on Fluoridation trials".

In Part II, the space is devoted to an analysis of Fluoridation Trial Controls in the areas noted previously, and many errors, omissions and mis-statements are clearly

pointed out and constructively criticized.

In taking issue with the review, as it appears in the *Journal*, of this most interesting and apparently authoritative study of Fluoridation results, it is quite clear the reviewer's presentation is not a review of the book, but it is an attempt to perpetuate the many misconceptions which have arisen due to emotionally produced reasoning and clouding of clearly stated facts.

The author clearly states the purpose of his study in the Preface, as, "This study was undertaken in an attempt to answer the question: Can the claims of considerable dental benefits as a result of artificial Fluoridation be regarded as established, or are they based on an unsound foundation?"

It seems curious that a statement of this sort should be misconstrued by a reviewer who is also a research worker, since the basis and foundation of all medical research is constant review of all authenticated, or not so authenticated, results of controlled (sic) studies on any subject affecting the health of the people.

Perhaps we should note here that often "We do not wish to see the messenger because we do not like the message he bears."

The author's premise is fundamentally correct and very sound. In doing medical research, where does one begin? Following the statement of the purpose for a study on a given subject, is it not the duty and responsibility of every investigator to become familiar with the various works on the subject in the past, and further to familiarize himself with the various errors in the past which may affect his own future experiments.

When these errors and omissions are recognized and brought to the attention of future research workers, then steps can be taken by them to avoid repeating these errors, and thus can be attained a level of experimental performance of high standards which would ultimately lead to discovery of truth.

Furthermore, it is performance of this high level that leads to impetus for future investigation.

Careful attention to all the many recorded observations which may or may not be pertinent to the experiment at hand, sometimes leads to other discoveries in medical research. It is obvious that the author of this book possesses this serendipity.

The reviewer states that "The author of this book ignores the vast amount of positive findings from the epidemiological, biochemical, pharmacological, medical, water-engineering and dental literature."

On the contrary, a careful perusal of the introduction to Part II and the references at the end of the book will clearly show that Drs. Sutton and Amies are quite well informed of all the available facts and show an

excellent familiarity with the literature on the Fluoridation Hypothesis, and with the basis for the numerous so-called endorsements to the process of Fluoridation of water supplies.

They do challenge the safety of artificial Fluoridation with many suitable references to outstanding medical and dental authorities. They point out that the opinion "for a definite need for a re-evaluation of the problem of Fluoridation" it not only theirs, but that of the Reference Committee of the American Medical Association. In passing, it might be added that this is also the opinion expressed in an editorial of *The Journal of the Canadian Medical Association* vol. 82; 1034; May 1960, which concludes by stating that "further work is necessary to clarify the findings on Fluoridation and Dental Decay."

In his objectivity, the author of this book even agrees that "it is possible that a case for Fluoridation can be solidly based", but he is not deterred by this possibility, from proceeding to show that many errors, omissions, and mis-statements occur in the printed results of Fluoridation trials which were conducted in the cities of Grand Rapids, Newburgh and Evanston in the U.S.A. and in Brantford, Canada.

He clearly states (Page 6) "The aim will be to investigate the reliability of the results reported, to assess the adequacy of the controls that were set up and to evaluate the accuracy of the statements made concerning the data obtained."

In the section on Basic Considerations, the author sets out to prove, and apparently succeeds in doing so in the rest of the book, that the controls were inadequate, that the fundamental importance of random sampling was not adequately considered, and that examiner bias and examiner variability existed.

There is much in this section which the reviewer has overlooked or considered very lightly. In the fifteen tabulated items which he reviews, he only expresses his personal difference of opinion with the author. This expression of opinion should certainly stimulate interest in the contents of this book and the reader will find much information upon which to arrive at his own opinion as to agreement or disagreement with the author's findings.

The reviewer has also omitted quite a large number of very important facts to be found in the book. A few of these will be noted here to stimulate further study.

The author comments on the importance of Climatic studies (P.8 & P.57), which were omitted, and on the inadequacy of information regarding the benefits of Fluoridation to deciduous teeth (P.58) which he considers to be quite important.

The author further concludes that, from his study of the reported beneficial results, much "weighting" exists to show high favorable percentages and also that the "influence of dental treatment" and oral hygiene education during these experimental studies has not been taken into account in computing these favorable percentages (P. 29, 40, 41, 47).

He draws attention to a very important and overlooked dental factor namely that of the effect of Fluoridation as a detrimental cause in producing "delayed tooth eruption" (P. 27, 53, 54, etc.). This in my opinion could lead to a considerable increase in the future need for Orthodontic treatment

Although the reviewer, by directly commenting that "good books on Fluoridation are already available", and by recommending other books than the one he is reviewing, implies that this monograph of Dr. Sutton's is not worthwhile reading — it is, neverthe-

less, to be recommended as a most provocative, stimulating and enlightening book on the subject of Fluoridation.

The material in this monograph is of interest not only to research workers and specialists in oral health, but to everyone in the dental and medical professions. This booklet is one of the best published evidences of objective thinking in research. A careful study will reward the reader, by helping him to disentangle the maze of conflicting opinions published on the subject of Fluoridation.

The contents of this book will force the dental profession to ask itself a number of questions. Do our experts possess sufficient knowledge, candor, and altruism? Must our experts choose sides in order to resolve an issue which obviously can be clarified by integrity of purpose and the search for truth?

S. W. LESLIE, M.D., D.D.S.,
Toronto, Ontario.

Editor's Note:

Since the publication of the review of Philip R. N. Sutton's book *Fluoridation—Errors and Omissions in Experimental Trials* in this Journal in June 1960, an exhaustive review of the book has taken place at the public hearings of the Ontario Fluoridation Investigation Committee. These meetings were held in Toronto in June of this year and the Committee's report is expected in the near future.

For the reader's guidance we publish a review of this book that appeared in the June issue of the *British Dental Journal*.

FLUORIDATION—

There can be few readers of the *BRITISH DENTAL JOURNAL* who are not aware of the classic epidemiological and experimental studies that showed the relation between dental health and the fluoride concentration of drinking water. Most informed readers will also know that it was on the basis of the results of these studies that several public health authority teams in North America began water fluoridation projects approximately fifteen years ago. These projects, at Brantford, Grand Rapids, Evanston, and New-

burgh, were designed to explore the technical and administrative problems of supplementing the fluoride in a community water supply. They were also designed to demonstrate that the low incidence of dental caries enjoyed by people living in areas where fluoride was added to the water supply by underground rocks could also be enjoyed by consumers of water supplies to which the optimum amount of fluoride had been added by mechanical means in the waterworks.

Dr. P. R. N. Sutton, who is a Senior Research Fellow in the Dental School of the University of Melbourne and the author of

the book in question, does not seem to be aware of this. Ignoring the evidence of epidemiological research and animal experimentation he has written a monograph beginning with the false premise that the endorsement of proposals to fluoridate domestic water are almost entirely based on the results of fluoridation trials in the cities mentioned above. He then attempts to suggest to the reader that the trials were so badly designed and conducted and the results were presented in such a prejudiced fashion that they are inadmissible as scientific evidence. He does not arrive at any clear conclusions and his final remark "The sound basis on which the efficacy of a public health measure must be assessed is not provided by these five crucial trials" is nothing more than a carefully phrased innuendo.

This book is so imperfect that it scarcely merits discussion in a learned journal. However, it may well be publicised by unscrupulous opponents of fluoridation and for this reason it is necessary to comment upon it in these columns. Those who are liable to have portions of the text quoted at them by opponents of fluoridation had better inspect it so that they can estimate its true worth for themselves. Those who expect from the title to find a reasoned critique of fluoridation will be disappointed. By the use of guarded language, Dr. Sutton is careful to avoid appearing openly as an opponent of fluoridation but this reviewer's impression gathered from a careful reading of the text is that he is less concerned with scientific truth than with the manufacture of material for a campaign to oppose the introduction of fluoridation in Australia.

What are Dr. Sutton's opinions worth? Of his qualifications and experience in the field of the epidemiology of caries we are given not an inkling. The bibliography does not mention any of his publications. Further inspection suggests that the book is the work of an armchair critic who uses as his materials some of the literature on fluoridation and two standard texts on statistics.

The book is in two parts. The first consists of a four-page reprint of a paper published jointly by Dr. Sutton and Sir Arthur Amies in the *Medical Journal of Australia*, and it could well have been omitted since it is merely repetitious of what follows in part two. The second, and main part of the book, consists of four chapters in which the Grand Rapids, Evanston, Brantford, and Newburgh studies are subjected to detailed criticism. These chapters are preceded by an introduction which attempts to justify the work and a second-hand homily on the design of fluoridation trials entitled "Basic Considerations." The book ends with a discussion and

summary in which the author restates his opinions.

His method of criticism is to outline the theoretical ideal design for a fluoridation study and then to point out in minute and pedantic detail where the trials which were actually carried out fall short of his ideal. He does not consider whether this ideal is attainable in the type of study he is reviewing nor does he give the investigators under criticism credit for having worked towards this ideal in their various projects. Some of his criticisms are serious ones. He suggests that clinical examiners' assessments were biased, that changes of examiners could vitiate the results, that the control cities were not enough like the test cities, that data were interpreted in a prejudiced fashion and essential data suppressed; but most of his criticisms are merely quibbles. For example he picks up typographical errors and minor inconsistencies, between progress reports and final reports. He somewhat naively objects to changes in statisticians occurring during the course of a ten-year study. He selects year-to-year percentage changes in caries scores which suit his purpose but ignores the overall mass of evidence which does not support his contentions. He seems quite incapable of distinguishing between fluctuations about a steady level and a consistent downward trend. Although on page 4 the author states "we do not question the integrity of the workers in this field" his criticisms at times verge on the libellous. For example, referring to the Evanston 1950 report under the heading "'Correction' of data," on page 19, he writes "However, the process which they described — the arbitrary selection of a section of the data, which is then termed 'representative' — instead of making 'the ultimate findings to be considered valid and reliable,' would render a report based on this selected data unfit for serious consideration."

Some of his points have been answered in the February issue of the *Australian Dental Journal* by representatives of the American and Canadian workers whom he has criticised. A detailed rebuttal of his charges would be out of place in this review. What matters is whether Dr. Sutton's criticisms add up to anything. There are two cardinal errors in the book. One which has already been mentioned is the false premise that the case for fluoridation rests primarily on the evidence of the Grand Rapids, Evanston, Brantford, and Newburgh studies. It does not. It rests on the whole body of evidence which has been obtained primarily from epidemiological survey and animal experimentation. The second serious shortcoming is that the author's analysis is entirely one-sided and unfair. None of his criticisms is original or

unknown to those responsible for conducting the trials. Although in some details he may be correct, by failing to consider the details in relation to the mass of evidence as a whole he excludes himself from consideration as a trustworthy critic. The questions which should have been answered by an honest critical appraisal of the fluoridation trials are as follows. Was there a significant reduction in dental caries in the test towns as compared to the control towns, or was there not? If there was a reduction was it due to the fluoride added to the water supply or to some other causes? Dr. Sutton fails to provide any straight answers to these questions and prefers to take refuge behind a smoke-screen of insinuations. In this reviewer's opinion

his essay in no way weakens the case for fluoridation.

All that can be said in favour of the book is that it will encourage the re-reading of the original reports which Dr. Sutton lists in his bibliography. The reader would be well advised to have them at hand and compare them with Dr. Sutton's interpretation. In so doing he will inevitably arrive at the conclusion that the fluoridation project directors and their colleagues are a great deal wiser than Dr. Sutton, and their opinions are a great deal more to be valued since they are based on first-hand intimate knowledge of the field of study.

A. C. KERR.

British Dental Journal

Vol. 108 — No. 12 — June 21, 1960.

SPECIAL NEWS ITEM

First anti-decay dentifrice approved by American Dental Association

As of August 1st the American Dental Association officially recognized Crest toothpaste as "an effective decay-preventive agent." Crest is the first dentifrice ever to receive such recognition.

In a statement published in the August issue of *The Journal of the American Dental Association*, the A.D.A. Council on Dental Therapeutics reported:

Crest has been shown to be an effective anticaries (decay preventive) dentifrice that can be of significant value when used in a conscientiously applied program of oral hygiene and regular professional care; Crest dentifrice may also

be of value as a supplement to public health procedures.

The dentifrice contains stannous fluoride as its principal active ingredient. The Council emphasized that its action applied only to this specific product. "None of the other dentifrices evaluated to date by the Council is supported by evidence considered adequate to demonstrate substantial effectiveness," according to Dr. Lester W. Burket, Philadelphia, Council chairman. Dr. Burket also added:

"The stannous fluoride dentifrice is an aid in combating dental decay; it is not a cure-all. Nor will it substitute for fluor-

idation of community water supplies. Fluoridation, which is supported by exhaustive long-term studies, remains by far the most effective means for obtaining the benefits of fluorides. We hope that additional studies will further clarify the role of Crest or other dentifrices in the program of preventing dental decay."

Three elements were involved in the Council's decision: the safety, the effectiveness, and the advertising claims. In taking its action, the Council considered both the results of clinical studies conducted during a ten-year period and "the manufacturer's willingness to limit advertising claims to those supported by adequate research."

Seven clinical studies, varying from one to two years in length, have been conducted on the dentifrice. All seven test groups reported less dental decay during the study period than did control groups using dentifrices without stannous fluoride. "However, the magnitude of the decrease in caries incidence in each test is difficult to express without making specific reference to the conditions of each study," the Council report stated.

One group used the dentifrice "under normal conditions in their home" and experienced a 23 per cent reduction in the incidence of dental decay. In another group where there was supervision of brushing once daily with the product, there was a 34 per cent reduction. In a third group with supervised brushing three times daily there was a 57 per cent reduction.

The Council pointed out that the variation in the figures "illustrates the probable need for frequent use of Crest to achieve maximum benefits, and associated Crest's usefulness with a program of good oral hygiene," including proper use of the toothbrush, regular dental care and avoidance of excessive consumption of sweets.

Three methods of obtaining the benefits of fluorides are now recognized by the Association: (1) dietary fluorides, best provided by fluoridation of community water supplies; (2) topical application of fluoride solutions directly to children's

teeth by the dentist, and (3) the stannous fluoride dentifrice. From the standpoint of cost, effectiveness and convenience, fluoridation is by far the most desirable method, according to the Council.

The Council said that preliminary studies, not yet considered conclusive, suggest that the benefits of all three methods may be additive.

Background Information: The Council on Dental Therapeutics of the American Dental Association was created in 1931 and has as its major responsibility gathering and disseminating information which can assist the profession in selection and use of therapeutic agents and their adjuncts. Included are drugs, chemicals and devices employed in diagnosis, treatment and prevention of dental disease. The Council evaluates products concerning their usefulness, composition and labeling as well as the accuracy of advertising claims. As part of its duties, the Council provides the profession and the public with a systematic and authoritative evaluation of dentifrice claims for the prevention of dental decay or other oral diseases. None of the dentifrices previously evaluated by the Council had been supported by evidence which was considered adequate to demonstrate substantial effectiveness.

The Council classifies products in four groups:

Group A consists of accepted products listed in Accepted Dental Remedies, published annually by the Council.

Group B products lack sufficient evidence to justify present acceptance in group A, but offer reasonable evidence of usefulness and safety. They usually are undergoing further clinical dental trials to clarify final status. Group B does not suggest inferiority but is rather a method for early evaluation. *Crest dentifrice has been classified in Group B.*

Group C products lack sufficient evidence to allow accurate evaluation.

Group D products are unacceptable because of their demonstrated inability to meet the Council's standards.

BOOK REVIEWS

Dental Roentgenology

Prepared by: L. M. Ennis and H. M. Berry.
Published by: The Macmillan Co. of Canada Ltd. Pages: 602. 1282 Illustrations.
Price: \$15.00.

This is the fifth edition of a book, the first edition of which was printed in 1931. Since that time, the authors have made several additions and modifications in keeping with our changing knowledge on this subject.

The fifth edition contains certain information which was not in the fourth edition. The most important changes are Chapter I, which deals with radiation; the section on extra-oral techniques; and certain illustrations of pathological conditions.

There has also been an increase in the price since the fourth edition but this is still within reasonable limits.

The publication contains 600 pages, approximately one-third of which are devoted to technique and radiology physics, and the remainder of which deals with interpretation.

There are a few printing errors 'such as 'adenocarcinoma'; 'hyperparathyroidism'; and 'wild-growing'.

There are also a few technical phrases with which one may disagree. However, in the main, the terminology that is used would be

generally understood and the text is set forth in a manner that is easy to follow. There are almost 1300 illustrations, most of which are well reproduced, but a few are below standard when compared with those appearing in some recently published books.

This reviewer felt that there could, perhaps, have been a better grouping of the subjects. While malignant tumors are dealt with in a separate chapter, benign tumors are included with a large number of other pathological conditions. A separate chapter for benign tumors would, perhaps, have been an advantage. In the text on malignant tumors, the description of the radiographic appearance is scant, and bearing in mind the importance of this subject, one feels that more space should be devoted to this aspect. Also, in the section dealing with benign tumors, one would expect to find a description of the giant cell tumor involving bone. Conversely, ossifying periapical fibroma (Synonym . . . periapical osteofibrosis) is covered thoroughly and the illustrations are comprehensive and good.

The sub-chapter on elementary terminology is an advantageous inclusion. In these days of rapid scientific advancement, one is liable to be bombarded with words, the meaning of which is obscure.

This book will follow the previous editions as a reliable standby on the subject of Dental Roentgenology and can be recommended for reading.

H. G. Poyton

THE LIBRARY

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THE ASSOCIATION

1960 B. C. Regulations For Technicians

British Columbia dental technicians who have been dealing with the public have won the right to make and sell dentures to the public.

Under an enabling act, entitled "Dental Technicians Act," adopted during the 1958 session of the B. C. Legislature, regulations are now enacted (June 15, 1960) to govern dental technicians in that province. With the exception of Section 10 of these regulations, this legislation is patterned after that existing in several other provinces.

Section 10 entitled "Special Licences," provides for those technicians who have had twelve years experience as a dental technician of which the last seven years shall have been spent in an establishment dealing with the public in British Columbia. Three months from the adoption of the regulations is permitted for these technicians to apply for registration. It is understood that there are some 35 or 40 persons who fall into this category. This is tantamount to saying that those who have disobeyed the law in the past are now granted special privileges.

Section 11 of the regulations following Section 10, appears most incongruous. It reads as follows: "The (Technicians) Board shall be satisfied and shall take steps to insure that the health and welfare of the public shall be at all times protected with respect to any authority or licence granted or issued under any Division of these regulations."

Statement is made that no special licences will be issued after September 15th next. All technicians in British Columbia (approx. 300) must be registered but only those holding special licences are to be permitted to make dentures directly for the public.

Quotations From the Press on British Columbia Action

Dr. C. R. Hallman, President B. C. College of Dental Surgeons:

"A small number of technicians have been acting illegally in this regard for seven years. Now the government makes it legal.

"Why then shouldn't abortionists and bootleggers demand the same right to practice legally?"

Dr. Gordon Shrum, Chairman of Dental Technicians' Board (Dean at the University of British Columbia):

"If the dentists had policed their own act this would not have happened.

"Abortionists and bootleggers are guilty of a criminal act and are prosecuted by the attorney-general's department.

"I don't believe practising as a dental technician dealing with the public is a criminal act."

J. G. McIntosh, President, Victoria Bar Association:

"In my view, a constantly increasing standard of training should be striven for in our universities, and those who are not willing to take that high degree of training should not be allowed to pass themselves off on the public as being just as good.

"Members of all professions must regard with alarm any course of events which leads to a weakening of high standards. It is regrettable that the public will no longer be protected by the provisions of the Dental Act."

International Meeting at Dublin

Some 30 countries were represented at the Dublin meeting (June 20-25) of the International Dental Federation. 790 dentists were registered. The meeting was a most successful one for which a great deal of credit is due the host organization, the Irish Dental Association. The next annual meeting will be held at Helsinki, July 9-15, 1961 and the XIII International Congress will be at Cologne, July 8-16, 1962.

F. D. I. Policy Statement on Dental Technicians

During 1959-60 a world-wide study was conducted on dental technicians with the result that the following policy statement was adopted at Dublin:

"The dental technician renders valuable support to the dental profession in its responsibility to provide Health Service to the public.

It is clear, therefore, that the best interest of the public is served by a strengthening of the bond between the qualified dentist and the dental technician.

In the interests of improved dental service to the public the International Dental Federation supports the following objectives:

1. The establishment of formal training courses on the vocational level with members of the dental profession co-operating in such instruction.
2. The support of legislation for technicians in countries where such legislation is deemed desirable by the dental profession, provided that such legislative proposals are designed to protect the health of the public by recognizing that only the dental profession has the education, experience and training to provide prosthetic services directly to the public.
3. In general, the support and implementation of measures to improve the educational and economic base of the dental technician and his craft.

In the interests of public health and welfare, the International Dental Federation is opposed to all efforts of a legislative nature or otherwise, designed to permit or allow the actual practice of dentistry by dental technicians.

The International Dental Federation officially recognizes the valued contribution of dental technicians to the improvement of the service which the dental profession renders the public and will actively support all constructive objectives for the betterment of the vocation in line with this stated policy."

F. D. I. Reaffirms Position on Fluoridation

The following resolution was unanimously adopted:

"Whereas, the scientific evidence supporting the safety, effectiveness and practicality of fluoridating public water supplies in order to reduce the incidence of dental caries is now being considered by governments and communities in many parts of the world so that they may bring this benefit to the population of their countries and communities, and

Whereas, the Expert Committee convened by the World Health Organisation has recommended the adoption of fluoridation measures throughout the world, therefore be it

Resolved, that the fluoridation of public water supplies be commended to all public authorities as the most effective public health measure available for reducing safely and economically the incidence of dental caries, particularly in the younger age groups."

F. D. I. Briefs

- Dr. O. H. Moen of Watertown, Wisconsin, was re-elected President for a second term.
- A glossary of dental terms in five languages is to be prepared.
- Preparation is under way to publish a history of the F. D. I.
- The education and proper utilization of auxiliaries will be a main subject for the next meeting.
- A special commission on the dentists' health has been established.

Victoria Dental Society Institutes Free Dental Care

In a news release (June 8) Dr. R. L. Horne, President of the Victoria and District Dental Society, announced free dentures to old-age pensioners who do not qualify for social assistance. The cost of the plan will be borne by the dentists themselves. The plan will provide free denture service for needy pensioners. The dental society will not receive any financial assistance in operating the plan. Conferences are taking place between officials of the Silver Threads Service and the dental society respecting details of operation for the plan. In a later statement the Silver Threads Service stated that it had been decided for executive members of pensioner groups to judge who should qualify for the service. Statement is made that this is the first plan of this nature to be instituted in Canada and will serve as a pilot model for British Columbia.

Technician Legislation Announced in Australia

The Premier of New South Wales, Australia, has announced his government's intention to introduce legislation which will license dental technicians to deal directly with the public. The announcement was made June 11-12 during the annual conference of the New South Wales branch of the Australian Labour Party. Only broad policy has so far been formulated and it is expected that some months will pass before a bill is presented to Parliament. As outlined during

the Conference, features of the bill are: (1) licenses will be issued by the Health Department; (2) licensed technicians will be able to deal directly only with a patient who holds a certificate from a registered dentist to the effect that the mouth is healthy, clean and in a fit state for dentures; (3) the activities of licensed technicians are to be confined to full dentures, and (4) the licensed technician will not be permitted to fit and supply immediate dentures. It has also been announced that prior to licensing an eligible technician must undergo an examination to prove that he has attained a standard equivalent to that of a university student at graduate level. It is being assumed that this means the standard reached by a dental student at such an academic level in all aspects of full denture prosthesis. The Australian Dental Association (New South Wales branch) has announced opposition to the legislation.

New Publication by Alberta

Volume 1 Number 1 of the "Alberta Dental Information" has been issued. This publication carries provincial news of dentistry and fills a real need.

Limitation Placed on Medical and Dental Fees

As part of a social security reform, the French Government has set ceilings on fees for medical and dental practitioners which action is reported in the *New York Times*. At the same time under the social security program, a reimbursement to patients of 80 per cent of the imposed fees was announced. The newspaper dispatch states that French dentists and physicians have denounced the decrees as contrary to the country's constitution and that, at least, some practitioners are refusing to sign the necessary papers for the security administration.

THE CORPS

New Officers in the Corps

Sixteen new dental officers have been appointed to the R.C.D.C.(R) following graduation:

Captain P. J. J. Coulombe, B.A., D.D.S. of Toronto, Ont. Graduated from the University of Toronto and posted to Camp Shilo, Man.

Captain E. W. Gazo, D.D.S. of Windsor, Ont. Graduated from the University of Toronto and posted to R.C.A.F. Station, Trenton, Ont.

Captain L. G. Gray, B.Sc., D.D.S. of Halifax, N.S. Graduated from Dalhousie University and posted to Currie Barracks, Calgary, Alberta.

Captain Y. Kamachi, B.A., D.D.S. of New Westminster, B.C. Graduated from Dalhousie University and posted to H.M.C.S. "Naden", Esquimalt, B.C.

Captain P. P. Morin, B.A., D.D.S. of Regina,

Sask. Graduated from University of Toronto and posted to Cold Lake, Alberta.

Captain O. A. Tucker, D.D.S. of Woodstock, Ont. Graduated from the University of Toronto and posted to No. 14 Dental Company, Winnipeg, Man.

Captain A. J. C. J. Vachon, D.D.S. of Sturgeon Falls, Ont. Graduated from the University of Toronto and posted to Camp Petawawa, Ont.

Captain F. C. Arpin, B.A., D.D.S. of Tracy, Que. Graduated from the University of Montreal and posted to Fort Churchill, Man.

Captain J. R. Boulay, B.A., D.D.S. of St. Hyacinthe, Que. Graduated from the University of Montreal and posted to The RCDC School, Camp Borden, Ont.

Captain D. S. Campbell, D.D.S. of Charlottetown, P.E.I. Graduated from Dalhousie University and posted to H.M.C.S. "Stadacona", Halifax, N.S.



RCDC FLASHBACK

Holland 1945

Courtesy Dr. C. S. Lea, Calgary.

Captain W. T. H. Harley, B.Sc., D.D.S. of Edmonton, Alta. Graduated from the University of Alberta and posted to H.M.C.S. "Naden", Esquimalt, B.C.

Captain J. J. R. Houde, B.A., D.D.S. of Sherbrooke, Que. Graduated from University of Montreal and posted to No. 14 Dental Company, Winnipeg, Man.

Captain B. G. Johnston, B.Sc., D.D.S. of North Sydney, N.S. Graduated from Dalhousie University and posted to Camp Gagetown, N.B.

Captain J. G. B. Parent, B.A., B.Sc., D.D.S. of Rimouski, Que. Graduated from the University of Montreal and posted to R.C.A.F. Station, St. Johns, Que.

Captain M. Petryk, D.D.S. of Atmore, Alberta. Graduated from the University of Alberta and posted to Cold Lake, Alberta.

Captain J. Vincent, B.A., D.D.S. of Montreal, Que. Graduated from the University of Montreal and posted to R.C.A.F. Station, Goose Bay, Labrador.

Return to Canada

The following dental officers have returned to Canada following a tour of duty in Europe:

Major H. G. Bunston of Brandon, Man. to No. 14 Dental Company, Winnipeg from No. 35 Field Dental Unit.

Major P. L. Falkner of Montreal to R.C.A.F. Station, Downsview, Ont. from No. 35 Field Dental Unit.

Major W. H. Murray of Saint John, N.B. to R.C.A.F. Station, Camp Borden, Ont. from No. 4 Field Dental Company.

Major A. G. Taylor of Sydney, N.S. to Canadian Forces Hospital, Halifax, N.S. from No. 35 Field Dental Unit.

Captain J. T. Marshall of Bridgetown, N.S. to R.C.A.F. Station, Greenwood, N.S. from No. 35 Field Dental Unit.

Dental Officers to Europe

The following dental officers have been posted to Europe for a tour of duty with the units indicated:

Major C. Brown of Trinity, Nfld. to No. 4 Field Dental Company, Germany from Winnipeg, Man.

Major W. H. Harrington of Dawdney, B.C. to No. 35 Field Dental Unit, France from Whitehorse, Y.T.

Major C. J. Sivell of Toronto, Ont. to No. 35 Field Dental Company, France from Camp Gagetown, N.B.

Captain J. G. Boucher of Willow Branch, Sask. to No. 35 Field Dental Unit from Camp Petawawa, Ont.

Captain A. T. Hinch of Halifax, N.S. to No. 35 Field Dental Unit from Camp Gagetown, N.B.

Postings in Canada

The following postings of dental officers have recently taken place in the Corps throughout Canada:

Lt. Col. C. M. Cornish of Ingersoll, Ont. to R.C.A.F. Station, Rockcliffe, Ont. from the Directorate of Dental Services.

Lt. Col. J. W. Turner of Toronto, Ont. to the R.C.D.C. School, Camp Borden, Ont. from Currie Barracks, Calgary, Alta.

Major J. D. Bourque of River Bourgeois, N.S. to Camp Valcartier, Que. from Fort Churchill, Man.

Major W. K. Dickie to Campbellton, N.B. to Whitehorse, Y.T. from Canadian Forces Hospital, Halifax, N.S.

Major W. R. Thompson of Campbellford, Ont. to The R.C.D.C. School, Camp Borden, Ont. from Camp Gagetown, N.B.

New Dental Equipment Depot and Change of Command

No. 1 Dental Equipment Depot has moved to new modern quarters at Camp Petawawa, Ont. Captain J. W. Fletcher of Ottawa has been promoted to the rank of Major and appointed to command the new Depot. He replaces Major A. W. Brusso who has been posted to the Directorate of Dental Services in Ottawa.

Brigadier Baird Inspects No. 13 Dental Company

During the month of June Brigadier K. M. Baird, Director General of Dental Services inspected RCDC personnel and facilities of No. 13 Dental Company at Army and Air Force installations throughout Ontario. No. 13 Dental Company with headquarters at R.C.A.F. Station, Trenton, Ont. is commanded by Colonel A. C. Leman of Toronto.

Lt. Col. G. C. Evans to Command No. 4 Field Dental Company

The appointment of Lt. Col. G. C. Evans of Warner, Alberta to command No. 4 Field Dental Company in Germany has been announced. A 1944 graduate of the University of Alberta, Lt. Col. Evans has had a wide variety of service with the R.C.D.C. in Western, Quebec and Central Commands as well as aboard ship and in Korea. He is probably best known for his work at The R.C.D.C. School where he served as an instructor in Crown and Bridge and Chief Instructor from 1953 to 1959.

Lt. Col. R. H. G. Cunningham to be Senior Operator at Trenton

Lt. Col. R. H. G. Cunningham who has been Commanding Officer of No. 4 Field Dental Company for the past three years has returned to Canada to take up a new appointment as Senior Operator at No. 15 Clinic, R.C.A.F. Station, Trenton, Ontario.

Major Protheroe to Washington

Major D. H. Protheroe of the Directorate of Dental Services made a liaison visit to Headquarters of the U. S. Navy and Army Dental Corps in Washington in July.

Major Hillier Receives M.P.H.

Major D. H. Hillier of Toronto received his Masters Degree in Public Health from the University of Michigan in June and has been posted to the Directorate of Dental Services in Ottawa.

Change of Command Dental Detachment in Middle East

Major J. C. E. McDonald of Amherst, N.S. has been posted to the United Nations Emergency Force in the Middle East as Officer in Charge of the Canadian Dental Detachment. He replaces Major D. J. Carmichael of Vancouver who has been posted to H.M.C.S. "Naden", Esquimalt, B.C.

* * *

When it ought to be done, whether you like it or not; it is the first lesson that ought to be learned; and however early a man's training begins, it is probably the last lesson that he learns thoroughly.

—Thomas Henry Huxley

"The more is given the less the people work for themselves, and the less they work the more their poverty will increase."

—Tolstoi

THE PROVINCES

ALBERTA

Calgary & District Dental Society

The Prosthodontic Society presented a progressive table clinic demonstrating their denture techniques to members of the Calgary and District Dental Society at the regular April meeting of the Dental Society. Also present, as guests of the Society, were the ethical laboratory technicians of the city. Following dinner, Dr. Clay Hallman of Vancouver, the mentor of the Calgary Prosthodontic Society gave an illustrated talk on prosthodontics and the responsibilities of the dentist and technicians in this field.

The annual election of officers was held at the May meeting of the Calgary and District Dental Society. The new executive is as follows:

President, Dr. J. A. Gibson; Vice President, Dr. G. W. Street; Secretary, Dr. E. F. Allison, and Treasurer, Dr. A. D. Sparrow.

Following the business meeting, an excellent Clinical Hypnotic Symposium was presented by members of the Calgary Medical and Dental Hypnosis Society. Those taking part were Dr. D. Kovitz — History and Hypnodontics, Dr. G. K. Minty — Hypnosis in Children's Dentistry, Dr. M. Carnat — Hypnosis in Psychiatry, and Dr. Eunice Jenkins — Hypnosis in Medicine. Following the discussion of hypnosis, a most interesting demonstration of hypnosis was presented with three subjects.

Lethbridge and District Dental Society

The Lethbridge and District Dental Society held their annual golf tournament on Thursday June 23rd. at the Lethbridge Country

Club. Fine sunny weather presented a fine day for golf.

The Dave Bowen Trophy was won by Dr. D. A. Rylands and prizes went to Dr. Christou and Dr. Allen. Ladies low net was won by Mrs. Helen Christou and low gross was won by Mrs. Margaret Rylands.

Following the golf a dinner was enjoyed at the El Rancho dining room.

Prizes were donated by the Lethbridge Dental Laboratory, Black's Dental Laboratory, and Southern Dental Laboratory.

D. A. R.

Edmonton & District Dental Society

The March meeting of the Edmonton and District Dental Society took the form of a local talent session. The clinics were presented in afternoon and evening sessions by the following members:

Dr. K. A. Burnham
Restorative Dentistry Under General Anesthesia

Dr. K. McMurchy
Microtome Serial Sectioning of Calcified Teeth

Dr. Sperry Fraser
Interesting Prosthetic Cases and Use of Springs

Dr. Cecil Ward
Interesting Cases

Dr. Bohdan Kuzyk
Rubber Dam Technique in Pedodontics

Dr. R. P. Mullem
Orthodontics for the General Practitioner

Dr. George Gibb
Crown and Bridge Techniques

Dr. M. B. Levitt
Public School Dental Services

Dr. A. A. Olsen
Literature for Your Office

B. L. K.

BRITISH COLUMBIA

Northwestern B. C. Dental Society

The quarterly meeting held at Terrace on June 10 and 11 was attended by members of the society from Kitimat, Prince Rupert and Terrace.

A clinic on oral surgery and neoplasms of oral origin was presented by Dr. A. E. Swanson of Vancouver, who supplemented his clinic with colour slides of exceptionally fine detail.

A dinner at Lakelse Lodge followed the meeting and bathing was enjoyed at Lakelse Lake Hot Springs.

On the following day an airplane was chartered and the party was flown into Khtada Lake for a day of successful trout fishing.

Coroner's Jury Makes Recommendation

A motorist was recovering from the effects of sodium pentothal used by a dentist in the removal of thirteen teeth when his car fatally injured a pedestrian at a Vancouver intersection.

The jury returned a verdict of accidental death and recommended that persons receiving barbiturates such as sodium pentothal be restricted from driving for a determined number of hours after administration of the drug.

Convention in Victoria a Success

The 44th annual convention of the B. C. Dental Association was held in the Empress Hotel, Victoria, May 12-14, 1960. From the moment that Dr. Carron Jameson, president, and Dr. Bernhard Kjekstad, convention chairman, welcomed the 275 dentists in attendance, until the last roundup, there was an enjoyable calendar of lectures, clinics and social gatherings.

The first featured essayist was Dr. Wyman H. Wilson of the University of Oregon. His lectures on crown and bridge covered the fundamental principles involved, preparations for abutments, quadrant dentistry, finish lines, impression materials and techniques, and functional occlusion.

Dr. Ainsley T. Thorson of St. Paul, Minnesota spoke on dental care for more people and declared that there was not a shortage of dentists but a shortage of dental production. In the lecture on the dental team, methods were shown for increasing the dental treatment output.

Mr. George M. Ling of U. B. C.'s faculty of medicine delivered a scholarly address on

dental pain. The subject was treated from the research and pharmacological aspect and measures to be employed in reducing pain were outlined.

"Delinquent accounts are best handled by never letting them occur", stated Mr. Douglas W. Smith, public relations counsellor, in a fine half-hour address on the subject. The dentist has a right to be paid for his services and the patient has a right to know the cost beforehand. Strong-arm methods of collection were deprecated, as the dentist must be his own public relations officer in his own office.

The last lecture on Saturday was delivered by Mr. Hugo Ray, Q.C., who spoke on the law of negligence as it might concern a dentist. This proved to be an enlightening exposition and the numerous questions which were posed showed the keen interest of the audience.

Two afternoons of table clinics were an innovation this year. They covered every branch of dentistry — sixteen clinics on Thursday and fifteen different presentations on Saturday afternoon.

Outstanding among the social functions were the Hawaiian Night on the first evening at the Crystal Garden, the President's Ball, and the informal gathering in the Georgian Lounge on Saturday evening which brought to a close a wonderful three days.

D. H. M.

Fraser Valley Dental Society

Dr. E. Schumacher of Langley was elected president of the Fraser Valley Dental Society at a meeting held on May 5th at Camp Chilliwack. Dr. Schumacher succeeds Dr. K. W. McCann of North Surrey.

Dr. Bartz, Langley, was named secretary-treasurer and district chairmen for 1960-61 are Dr. Kovits, Chilliwack; Dr. Loughlin, Abbotsford; Dr. Jinnouchi, Coquitlam, and Dr. Scott of Whalley.

Dr. G. Young was elected representative to the B. C. Dental Association. Dr. Tsuyuki of New Westminster, secretary last year, now heads the health committee. The program convenor is Dr. H. Bridges.

NEW BRUNSWICK

ATLANTIC PROVINCES CONVENTION

One of the most enjoyable and efficiently run Atlantic Provinces Dental Conventions took place in Saint John at the Admiral Beatty Hotel from the fifth to eighth of

June. From the very beginning of the convention, which was a buffet supper given by the City of Saint John, to the final mixed luncheon there was something of interest for everyone. A total of one hundred and eighteen dentists registered with the addition of seventy-four ladies. Of course, one thing that adds greatly to any convention is the weather and this was wonderfully warm with sunshine. We don't know which committee was responsible for this but the publicity boys made the most of it.

Monday morning started with the table clinicians, twelve of them; each had something practical and of interest. They were skilfully diversified as well as informative. The essayists were all of excellent calibre and gave interesting and educational addresses. Their talks were illustrated mostly with slides but a few had coloured sound movies.

A brief description of the clinicians in order of their appearance is as follows:—Dr. Wallace Gardner of Boston gave an interesting talk on "Audio Anaesthesia." This was followed by a coloured sound movie produced by the Ritter Dental Company. As this idea was new to practically all who were present it created much interest and discussion.

Captain S. W. Gray of the U.S. Navy Dental Corps spoke on the "Essentials of Complete Denture Construction." His talk was in two parts which were presented on Monday and Tuesday afternoons. Captain Gray is the head of the Complete Denture Branch and Clinical Services Department at the United States Naval Dental School at Bethesda, Maryland.

Dr. P. G. Anderson, professor of Operative Dentistry, University of Toronto, gave two essays. The first was on 'Operative Dentistry and the Rubber Base Impression Materials' and the second was 'Suggestions to Increase Efficiency in Operative Procedures.' As he is a New Brunswicker he is always welcome in his native province.

The last clinician was Dr. Harry Archer, professor of Oral Surgery and Anesthesia at the School of Dentistry, University of Pittsburgh. His topic was Oral Surgery and he was very able in his presentation of this always interesting subject for the general practitioner.

A special lecturer was Dr. D. G. Woodside, assistant professor of orthodontics at the University of Toronto. He spoke to the eastern group of orthodontists and his talks were illustrated with slides and sound movies.

Balancing the clinical side of the convention were the social meetings. Dr. Percy Clarke of Saint Stephen, N.B., the president of the New Brunswick Dental Society, was master of ceremonies and did an excellent

job. On Monday the luncheon had a special menu, one that appeals to all real Easterners, namely Saint John harbour salmon and fiddle-head greens.

The speaker at the luncheon was Dean James McLean of the Faculty of Dentistry, Dalhousie University. He spoke briefly but in a strong manner, urging all dentists to aid students to take up dentistry as a career.

In the afternoon the Royal Canadian Dental Corps Association held a very pleasant cocktail hour before dinner.

At the Tuesday luncheon Dr. B. A. Cyr of Edmundston was chairman and the speakers were:—Dr. M. A. Clay of the Department of Veterans Affairs of Ottawa and Dr. Harry Brown of the Department of Health and Welfare. At this luncheon Dr. A. J. Coughlan, on behalf of the New Brunswick Dental Society, presented a suitably engraved silver tray to Dr. A. J. Cormier of Moncton on his completion of fifty years of practice in New Brunswick.

In the evening a very pleasant mixed dinner and dance was held. The speaker at the dinner was Dr. Will R. Bird of the Nova Scotia Tourist Bureau at Halifax who gave an entertaining talk with a rapid fire of anecdotes and stories. He is an expert on the history of the Chignecto area of Nova Scotia and New Brunswick. This dinner was followed by a dance attended mostly by the younger couples. While the dentists were attending clinics the ladies had a program too. Under the auspices of the general ladies convener, Mrs. Hugh Bonnell, an excellent program was run. There was a coffee party, a fashion show, and an afternoon tea at which souvenirs were presented.

The last luncheon was a mixed affair and at this luncheon a presentation was made to the convention chairman, Dr. Andy Bona. It was he who gave the push and drive behind the scenes and was responsible for the great success of the convention. His committees worked hard but it was due to Dr. Bona that there was very little overlap, yet all was covered so that the convention ran very smoothly. Credit should also be given to the exhibitors and the advertisers without whose financial assistance the convention would not have been the success it was.

J.F.E.

Maritime Orthodontic Study Club — First 1960 Meeting

The first meeting of 1960 of the Maritime Orthodontic Study Club was held recently in conjunction with the Atlantic Provinces Dental Convention, in Saint John, N.B. A good attendance of full and part-time practitioners was present.

The group clinician was assistant professor D. G. Woodside, of the University of Toronto, who gave a two-day seminar on recent trends of research thought and growth and development. Also practical treatment and diagnostic procedures; emphasizing especially the use of the Monobloc appliance and the newer light-wire philosophy utilized in the Begg technique. These were accompanied by slides, treated cases, and X-Ray diagnostic aids.

The program ended with clinical motion pictures, and short topics. The speaker was introduced and thanked by Dr. T. E. Spracklin of Halifax, with Dr. W. O. Mulligan of Saint John, in the chair.

W. O. M.

NOVA SCOTIA

Annual Report—N.S.D.A. Board

(In the absence of Dr. Bill Macneil, the following report was prepared by Dr. John Burke, and presented to the Annual Meeting by Dr. Don Eaton.)

As you are all aware I am making this report on behalf of Dr. W. H. Macneil, who is still on the sick list after a heart attack which has hospitalized him since March 29. It has been Dr. Macneil's foresight and drive that led to the formation and development of this important wing of the N.S.D.A. On behalf of the Board I want to take this opportunity of expressing our best wishes to him, wishing a speedy recovery and a quick return to his practice and his work on behalf of our profession throughout the province.

I would also like to acknowledge the dedication and service rendered by our capable executive secretary, Mr. Ralph Ricketts. I feel that without his services and valuable assistance the Board would be incapable of properly servicing the profession. He has willingly shouldered the administrative headaches that are bound to occur in the setting up of such an organization as this.

I would like also to pay tribute to Drs. G. Caldwell and H. MacCormack, whose terms of office expire this month. Both contributed greatly, and were responsible in no small way to the success of the first Board of Directors.

We have just about completed one year of operation of the Post Payment Plan in Nova Scotia, and now is the time to assess

what has gone on in that period. There are many questions which will have to be answered in the coming months . . . has the plan been successful . . . were we right in starting such a plan . . . should it continue as is, or should it be changed . . . is it receiving the support of the profession and so on.

I think the most important question is that of support of the profession. There are 51 dentists in the province out of approximately 170, who have paid membership dues . . . just how many are actively participating is difficult to say. From what part of the province do we get our support? 23 from Halifax, 4 from Cape Breton, 6 from Truro, and the remainder scattered throughout the balance of the mainland. I think the answer to professional support is there.

Why is it not being supported by more dentists? Again the answers are many and varied. We would not and could not expect to have 100% participation, but I feel it could be much higher than it is. There are always those who are generally apathetic towards anything which tends to be away from the norm, they are content to have the status quo remain as is . . . the feeling that "I" do not need the plan, altho' it is good for others . . . a lack of knowledge of the plan and a lack of desire to find out . . . there is a suspicion that it might bring more problems . . . we could go through many more reasons why the membership is not higher . . . it indicates a type of negative thinking. On the other hand we are hearing from many parts of the province some very sound reasons why dentists do not belong, sound that is if we are looking at purely economic reasons. Many dentists have a sound cash payment plan in their office and their hours and appointment books are crowded, hence they do not feel the plan would extend their services to others, or benefit the practice they now have; there is the very just fear of bringing in the 'deadbeats' who litter up everyone's books on a one-time basis with the resultant loss of time to honest, well-intentioned patients and the loss of income to the dentist. There is the difficulty of getting credit ratings, again with the resultant loss of time if there is no local credit operation. It must be remembered too that many dentists are already providing a post-payment plan of their own to their long-time patients whose credit rating is well secured with them.

However, on the other hand there is more than the economic side to this plan as far as the dentist himself is concerned . . . and that is the service to good, honest families, who may be doing without proper dental care because their dentist does not have just such a plan in his office . . . and the aim of the plan is to provide just such a service.

During the year there have been administrative headaches that are bound to be part and parcel of any new scheme, and we mustn't be too hasty to condemn. Changes are being made constantly to provide better services from Toronto to the dentist and it will take time to evolve. In its first year of operation the plan has paid out over three quarters of a million dollars, and is already a significant factor in many dental practices, but to make it more so, it must be used by many more people. This much is certain . . . and that is that dentistry must have a dental insurance plan. The head office of DSPI in Toronto is studying the present plan and many others from every angle . . . there have been and there will be changes, but the basic ideas behind the plan as laid down in the objects of this Board in the "Memorandum of Association" are clearly indicated and will not change.

The important thing to remember, when we compare this date with the same date two years ago, is that now there is "a" plan, and that in itself is a sign of progress. When the time approaches, and it will, when the government is taking a closer look at health services to the general public, we shall have had the experience of operating a plan, and be more ready to adapt when the needs arise.

It is always difficult to gauge the reaction of the general public to such a plan in this day of state aid . . . but it can be truthfully said that certain groups within the general public make it very difficult to operate such a plan as ours . . . but at the same time, can we overlook the large numbers who want dental care, are honest and willing to pay for it and need some assistance from the profession to carry out such desires. These are the people we are seeing from day to day, the ones who keep us busy and who, indirectly, cause the profession to look for more graduates to fill the need. The present plan can be an answer to their needs, and must be so looked upon by the profession . . . it is an outward proof that the profession is aware of the problem and is trying to do something about it.

In accordance with the Articles of Association we nominate the three following members of the N.S.D.A. to act as members of the Board for a period of three years—Dr. W. H. Macneil, Dr. Norman Layton and Dr. Charles MacIntosh.

In compliance with the Articles of Association we nominate the following as Directors for the year 1960-61—Dr. John Burke, Sydney; Dr. Carl Dexter, Halifax; Dr. John MacConnachie, Halifax; Dr. Don Eaton, Halifax; Dr. Tom Rogers, Yarmouth; and Dr. W. H. Macneil, Halifax.

At the last annual meeting the N.S.D.A. made a grant to assist in setting up and

operating the Board. This year we feel we can operate without additional funds. However the future financial position of the Board will depend entirely upon the acceptance or rejection of the post payment plan by the individual members of the N.S.D.A.

In conclusion, I repeat that there is a place for our Post Payment Plan, but in order for it to be really successful and provide the services, it must have the full support of the profession. Whether or not our Nova Scotia dentists plan to use the plan right away, they should at least belong, be on the mailing list for the latest information coming from the head office, and help to present a united front when we are confronted with some socialized plan for medical care. This is a good plan, and used properly for the people for whom it is intended, it can extend good dental care to many who could not otherwise have the means to receive it at the right time.

Respectfully submitted,

John F. Burke, vice-pres.,
N. S. Dental Services Bd.

Seventeen Dental Students Graduate

Dalhousie University has conferred the degree of Doctor of Dental Surgery on the following graduating students: David Sydney Campbell; Charles William Curry; William Joseph Fortune; Peter Perley Fransblow; Nicholas Stephen Girdis; Lawrence Clive Gray; Man Piu Hui; Byron Gerard Johnston; Yoshihiro Kamachi; Arminius Harry Klein; Mitchel Levine; Trevor John Manteit; Vaclava Julia Meilus; James Augustine Miller; Sidney Ivor Luigi Roveda; Brian Joseph Taddeucci; Gerald George Turner.

Fourth Year Prizes

Dr. F. W. Woodbury Memorial Prizes: Thesis—M. Levine; Highest Standing—S. I. L. Roveda; Infirmary Prize—Y. Kamachi.
Dr. John Lobson Memorial Prize—M. Levine.
Modern Dental Lab. Prize—L. C. Gray.
American Academy of Dental Medicine Prize—S. I. L. Roveda.
C. V. Mosby Book Award—M. Levine.
Can. Soc. of Dentistry for Children Award—B. G. Johnston.

Third Year Prizes

Dr. W. H. H. Beckwith Prize—C. T. Green.
Nova Scotia Dental Ass'n Prizes—L. I. Gaum.
2nd—K. R. Asahina.
International College of Dentists (Canadian Section) Scholarship—H. W. Brogan.
Dr. F. A. Godsoe Award—K. R. Asahina.
C. V. Mosby Book Awards—C. T. Green; T. H. Raddall, Jr.

Second Year Prizes

Charles Bell Memorial Prizes—1st W. E. Russell, 2nd—D. M. J. Bonang.
C. V. Mosby Book Award—W. E. Russell.
St. John Dental Soc.—W. E. Russell.

First Year Prizes

Charles Bell Memorial Prizes—1st M. Brown.
C. V. Mosby Book Award—M. Brown.

NSDA Holds Annual Meeting— Saint John Host

Forty Nova Scotia dentists registered at the Atlantic Provinces Dental Convention, held in Saint John. Some twenty-eight attended the NSDA business session held on Sunday, June 5th, prior to the Convention clinical programme. All agreed that thanks were in order to the New Brunswick convention committee for the excellent programme and the fine way it was presented.

Recruitment

Dr. James MacLean's suggestion, as it appeared in these pages in a recent issue, was formally presented to the NSDA, resulting in the following motions: (1) The establishment of a recruitment committee to become active immediately, to study all aspects of the problem and take positive steps to encourage young people to enter the profession. (2) This committee shall study all aspects of the bursary proposal, with or without the co-operation of the other Maritime provinces and report their findings at the next annual meeting.

Elections

President, Wm. H. Macneil, Halifax.
First Vice, T. L. Rogers, Yarmouth.
Second Vice, H. P. MacCormack, Truro.

Secretary, A. A. Dunlop, Halifax.
Executive, John Burke, Sydney.
Chairmen of standing committees were reappointed.

ONTARIO

Essex County Dental Association

The general meeting of the Essex County Dental Association was held on May 26th and the new executive was elected and installed.

The following are the elected members: President, Dr. J. W. Wilson; vice-president, Dr. L. J. Schiller; treasurer, Dr. J. E. Austin, and secretary, Dr. D. L. Coppel.

The Association is looking forward to another successful year in Essex County and will endeavour to co-operate and aid the Canadian Dental Association in every way.
D.L.C.

PRINCE EDWARD ISLAND

Annual Meeting

Dr. W. S. MacIntyre, Montague, was elected president of the Prince Edward Island Dental Association at the annual meeting held in May in the Charlottetown Hotel.

Other officers include: Dr. D. A. Stewart, Summerside, vice-president; Dr. Heath MacIntyre, Charlottetown, secretary-treasurer, and members of the council are Dr. J. D. Miller and Dr. G. D. Barrett, Charlottetown.

Dr. L. A. MacIsaac, Charlottetown, was elected provincial representative on the board of governors of the Canadian Dental Association for a two-year term.

NOTICE:

The publication of the Cerebral Palsy Bulletin was started two years ago in London, England. The journal has a distinguished editorial board all of whom are actively engaged in this field. In addition to original articles and editorials, the Bulletin contains an abstract section covering a selection of articles on cerebral palsy and kindred subjects in the current world literature.

Annual subscription rate (\$3.25) payable to the National Spastics Society, 28 Fitzroy Square, London W.1.

GENERAL NEWS

A.D.T.A. Fellowship to Dr. Cole

The American Dental Trade Association Teaching Fellowship to Dr. Edgar N. Cole for the second year of his graduate study in Anaesthesiology. It provides a stipend of \$3,600. It will be recalled by those who received last year's Annual Report of the Fund that Dr. Cole was awarded the ADTA Fellowship for the first year of his graduate program on the basis of the excellent undergraduate record he presented with his application. During his first year of graduate work at the University of Pittsburgh Dental School he has shown great promise as a student and has amassed an excellent academic record. He has reported to the Fund that, upon completion of his graduate program in 1960, it is his intention to accept a teaching assignment in dental anaesthesiology in the new dental school located at the University of Manitoba, Canada.

Dr. J. Menzies Campbell

Dr. J. Menzies Campbell of Glasgow, Hon. F.D.S.R.C.S. Eng., F.D.S.R.C.S. Edin., F.R.S.E., has been appointed by the University of Edinburgh to be Honorary Lecturer in the History of Dentistry, the first such appointment in Great Britain

Doctor Exodus

In the last two years alone, roughly one in every eight East German physicians and dentists has fled to the west. Nearly 1,300 left in 1958; 900 fled in 1959. Reasons given for exodus: Immense care loads give little time for adequate diagnosis, drugs often are not available, pressure to join "collectives" and effect of communistic schooling on their children.

Red Press

The Russian press was scored by 16 Russian physicians for publicizing "pseudo-scientific and quack methods of medical treatment." A letter signed by the president of the Academy of Medical Science said newspapers print too many quack methods of treatment and present them as the "latest scientific achievement."

36th Annual Greater New York Dental Meeting To Be Held December 5-9

The 36th annual Greater New York Dental Meeting, world's largest seminar of post-graduate dental education, will be held at Hotel Statler Hilton, New York City, December 5 to 9.

The meeting, attended each year by dentists and allied practitioners from all parts of the world, is sponsored by the First and Second District Dental Societies of the State of New York, metropolitan components of the American Dental Association.

The program will include joint analysis of recent research developments by leading investigators of dental schools, discussions of uses and abuses of new drugs, the ladies' luncheon and fashion show, and the "Luncheon and Learning" session, at which dental leaders seated at heads of tables seating ten persons moderate informal discussions of their specialties. In addition, the registered clinics, visual educational films, clinical demonstrations and other educational features that have always distinguished the meeting will be included.

The scientific research exhibits will present findings by research groups of hospitals, colleges and the armed services. The commercial exhibit section, representing more than two hundred companies from all parts of the country, will display the latest in dental materials and equipment.

For programs and reservations, please write Mrs. Mabel Purdy, Executive Secretary, Room 106A, Hotel Statler Hilton, New York 1, N.Y.

Second Annual Report of the Fund for Dental Education—1959 The President's Message

It is now one hundred and twenty years since the first dental school opened its doors in Baltimore to educate young people in the science of dentistry. During this time dental education has markedly broadened and lengthened its program to include developments in dental science and to meet the changing needs for dentistry. Now the forty-seven dental schools in the United States and

five in Canada must be kept working at maximum efficiency and capacity if the dental needs of the public are to be met.

Since individual resources of none of the schools are sufficient to meet the challenges of the day, methods must be devised to finance the continued development of dental education. Adequate funds must be contributed annually if there are to be sufficient dentists educated to care for the health needs of our growing population.

The Fund for Dental Education has just completed its first year as a full-time activity with a central office, and the results that have been achieved show a healthy progress. The two barometers of our success, contributions received and funds allotted to dental education, have shown encouraging growth. Through the efforts of the Fund a rapidly growing number of firms and individuals are becoming interested in aiding dental education.

Total funds received during 1959 amounted to \$136,509 and compare favourably with \$46,957 raised in the preceding year. During 1959 the Fund allocated to dental education a total of \$71,700, which represents a gain over the \$6,000 allocated in 1958. All this was accomplished with the same monthly operating expense as in the previous year. This record was achieved through the voluntary work of the Directors of the Fund and others who gave freely of their time and effort to augment the work of the two full-time staff members at the central office.

The Fund for Dental Education needs and earnestly solicits your support.

Maynard K. Hine, D.D.S.,
President

House Committee Approves Trimmed Medical Aid-to-Aged Bill

A trimmed-down program of government subsidized medical care was approved June 3 by the House Ways and Means Committee. The bill would affect 1,500,000 people over 65. The \$340 million program is considerably less than either the bill of Congressman Forand or that of the Eisenhower administration, both of which would have extended benefits to about 12,000,000 people. The committee proposal, passed by a 17 to 8 vote, is expected to go to the House floor on a take-it-or-leave-it basis with no opportunity for amendments. The House committee program would offer federal grants to states which agreed to pay part of the bill for hospitalization, nursing home, major dental treatment and other medical costs for persons over 65 who do not qualify for public

relief. This new class of "medically indigent" would have to pass state tests designed to show need. In effect, the bill would expand the federal state public assistance program under which 2,400,000 elderly Americans already receive aid. The states would pay from 35-50% of the cost and would be required to furnish the new group with the same health benefits now given those on relief. The program is estimated to cost the federal government \$190 millions and the states, \$150 millions. In contrast, either the Forand or Administration bill would cost about \$1.2 billions.

Extensive Monograph Published on Calcification in Biological Systems

Five members of the Faculty of Medicine at Harvard, including three from the School of Dental Medicine, are among 32 contributors to a monograph on "Calcification in Biological Systems" published recently by the American Association for the Advancement of Science.

The monograph is edited by Dr. Reidar F. Sognnaes, Professor of Oral Pathology at Harvard. On July 1, Dr. Sognnaes will become Dean and Professor of Oral Biology at the newly established School of Dentistry of the University of California at Los Angeles.

Other Harvard contributors are Dr. Paul Goldhaber, Assistant Professor of Oral Pathology; Dr. James T. Irving, Professor of Anatomy in the School of Dental Medicine and the Forsyth Dental Infirmary; Dr. Melvin Glimcher, Assistant Professor of Orthopedic Surgery at the Massachusetts General Hospital; Dr. Jerome Gross, Assistant Professor of Medicine at the Massachusetts General Hospital. A sixth contributor, Dr. Robert M. Frank, was associated with the Department of Oral Pathology at the School of Dental Medicine but has since become chief of Research at the Institut Dentaire, Faculté de Médecine, Strasbourg, France.

The 22-chapter, 500-page monograph, Dr. Sognnaes notes, will be the first to deal comprehensively with mineral deposition in living matter within a whole spectrum of biological systems, ranging from single cells to man. "The central theme," he said, "concerns the organic-inorganic linkage, the nucleation mechanism in mineralization, which imparts to the biological whole—be it bone, ivory, shell, pearl or kidney stone—something more significant than a mere summation of its physical parts."

Dr. Sognnaes also commented that the 32 authors and co-authors, represent a multidisciplinary range of specialists, many of whom cut across the boundaries of individual

tissues and tools so as to make valuable cross-references to several systems and provide numerous leads for further research.

The basic papers in the monograph were presented in a three-session symposium before the American Association for the Advancement of Science.

French Limit Dental, Medical Fees

The French government has set ceilings on dental and medical fees as part of a social security reform. The action came in the face of strong protests from dentists and physicians, a New York Times dispatch said. At the same time, a reimbursement to patients of 80 per cent of the imposed fees was announced. French dentists and physicians have denounced the decrees as contrary to the country's constitution and some physicians have closed their offices for a day at a time in protest. An "administrative strike" is also being threatened, which would involve a refusal to sign the necessary papers for the social security administration. France already has a most extensive social security program.

Council of A.D.A. to Recommend Continuation of Specialty Moratorium

The Council on Dental Education of the American Dental Association will recommend that the House of Delegates reaffirm its approval of the presently recognized seven specialty areas. At the same time the Council will recommend that the moratorium on recognition of new specialties be continued for another year. The recommendations, which will be submitted to the House of Delegates in October, were adopted at the Council's meeting May 26-27, according to the chairman, Dr. H. S. Huxtable, Mineral Point, Wis. The Council has announced plans for a conference for late July to consider present and future areas of dental practice for which national certifying boards might be established. National dental groups concerned with areas of dental practice will be invited; dates will be announced at a later time. In other actions, the Council:

1. Adopted a statement on "requirements for the approval of a certification board for dental assistants," and a statement on "educational standards for dental assistant programs." Both statements will be submitted to the House of Delegates for approval.
2. Announced plans for a Workshop on Education of Dental Students in the Proper Use of Chairside Dental Assistants to be held Sept. 13-15 in the Central Office.
3. Approved in principle the idea of a national board examination for dental

hygienists and recommended that if such a plan becomes a reality it be operated by the Council of the National Board of Dental Examiners

4. Discussed plans for an expanded recruitment program in 1961 to interest more students in dental careers.

Japanese Society Elects

The Japan Dental Association has recently announced election of new officers. The men elected will serve until March 31, 1962. Those doctors elected were: President, Hiroshi Kawamura; Vice-President, Tsuneo Hosaka; Vice-President, Hanzo Okuno, and Managing Director, Norboru Fujiki. The address of the Association is 4-6 Kudan, Chiyoda-Ku, Tokyo, Japan.

Puerto Rico Fluoridation Successful

The addition of fluorine chloride to Puerto Rico's drinking water since 1953 has helped to reduce tooth decay among children by 65%, according to a report just issued by the Commonwealth Department of Health. The caries reduction was demonstrated by comparing the results of extensive surveys made by the Bureau of Oral Hygiene in 1952 and in 1958. By March of this year, all but seven towns were using fluoridated water and these seven will soon be included in the program.

Fluorides Safe, Study Shows

There is no evidence that fluorides in water have a harmful effect on kidney structure or function. This is the finding of a recent study conducted by Dr. Harold C. Hodge, pharmacology professor at the University of Rochester School of Medicine and Dentistry, Rochester, N.Y. Dr. Hodge reported to a symposium held in Boston and sponsored by the AMA's Council on Foods and Nutrition. The professor said that fluorides are quickly removed from body fluids and excreted rapidly and almost entirely in the urine.

Dental Ad Expenses \$50 Million

Dental advertising by the major manufacturers exceeded \$50 million in 1959, according to a report in Drug Trade News' issue of June 13. Expenditures of major brands of dentifrices were (in millions of dollars): Colgate, \$12.8; Crest, \$3.8; Gleem, \$8.8; Ipana, \$4.3; Pepsodent, \$2.5, and Stripe, \$4.3. The total spending for dentifrices and toothbrushes was \$38.6 million; for mouthwash and similar preparations, \$7.7 million, and for denture preparations, \$3.9 million.

New Dental Technician Status Threatened For Australian State

The Premier of New South Wales, Australia, has announced his government's intention to introduce legislation which will license dental technicians to deal directly with the public. The announcement was made June 11-12 during the annual conference of the New South Wales branch of the Australian Labor Party. Only broad policy has so far been formulated and it is expected that some months will pass before a bill is presented to Parliament. As outlined during the Conference, features of the bill are: (1) licenses will be issued by the Health Department; (2) licensed technicians will be able to deal directly only with a patient who holds a certificate from a registered dentist to the effect that the mouth is healthy, clean and in a fit state for dentures; (3) the activities of licensed technicians are to be confined to full dentures, and (4) the licensed technician will not be permitted to fit and supply immediate dentures. It has also been announced that prior to licensing an eligible technician must undergo an examination to prove that he has attained a standard equivalent to that of a university student at graduate level. It is being assumed that this means the standard reached by a dental student at such an academic level in all aspects of full denture prosthesis. The Australian Dental Association (New South Wales branch) has announced opposition to the legislation.

Dental Fees Increasing Slowly

Dental fees are rising far more slowly than other health costs, according to a recent report by the Bureau of Labor Statistics. While dental fees have increased 36.8% since the 1947-49 base period, hospital rates rose 120.6%; physicians' fees, 44%; surgeons' fees, 28.8% (only appendectomies and tonsillectomies included); obstetrical care, 61%; and hospitalization insurance, 62.9%.

Ireland Honors American Dentists

The National University of Ireland on June 23 conferred honorary LL.D. degrees on two prominent American dentists. Those honored were Dr. Obed H. Moen, chairman, Council on International Relations and president of *Fédération Dentaire Internationale* and Dr. H. Trendley Dean, former secretary of the ADA council on dental research.

British MDs Act

Physicians in Britain's National Health Service have accepted a government offer

that would give GPs a pay increase of about 12%. Increase brings family doctor health service income up to \$6,790 yearly.

Tranquilizer Use

Tranquilizing pills are being taken by one in every seven Americans as an escape from anxiety, according to Dr. Emanuel M. Papper, Columbia University. He said it is wise to discontinue use of tranquilizers 10 days before an operation since some of them may have potentially harmful effects when administered in conjunction with surgical anesthesia.

New Heart Disease Treatment Predicted

Development in this decade of new methods for preventing and treating heart disease and strokes was predicted by Dr. Paul Dudley White, Boston, honorary co-chairman of 1960 Heart Fund.

Dr. White said the 1960s should bring definite knowledge of the roles played by diet, heredity, obesity, and exercise in atherosclerosis; should see the development of new drugs for controlling high blood pressure; and should see the development of new surgical techniques for safer operations on the heart and blood vessels.

Survey of Advanced Dental Education

A dentist never really graduates. A recent survey shows that even after they have received their doctorates, eight out of every ten dentists pursue further formal training.

This fact was revealed by a survey of advanced dental education and hospital staff appointments. The survey was carried out by the American Dental Association's Bureau of Economic Research and Statistics and will be published as part of its 1959 Survey of Dental Practice.

Those dentists who continue advanced training, the study showed, average a course a year throughout their career. The bulk of advanced studies are of relatively short duration and are carried out at a dental school or under the direct sponsorship of a community or state dental society.

The increasing importance of advanced dental education is shown by the fact that nearly half of all dentists between the ages of 30 and 60 participated in courses in 1958. Also in 1958, the year upon which the survey was based, one out of every four dentists over the age of 60 attended advanced courses.

IN MEMORIAM

Lewis Thomas Gerald Smith—Dr. Lewis Thomas Gerald Smith of Toronto, died on July 6th. He was 79.

Born in Edgley, Ontario, Dr. Smith had lived in Toronto since childhood. He graduated from the R.C.D.S. of Ontario in 1908 and practised in the Medical Arts Building until he retired three years ago.

Surviving are his widow, Laura; two sons, Brig. G. L. Morgan Smith, and Rev. G. Moore W. Smith, and two brothers, Norman and Jack.

Darcy Randolph Nethercott — Dr. Darcy Randolph Nethercott of Stratford, Ontario, died on June 14th. He was in his eightieth year.

Dr. Nethercott was born in Mitchell, Ontario and received his early education there. In 1893 he moved to Woodstock and began his training in dentistry by working in a dentist's office there. In the fall of 1901 he entered the Royal College of Dental Surgeons of Ontario and after graduating in 1904 he moved to Stratford where he set up his practice. He retired in 1954 when he received his honorary membership of the Ontario Dental Association.

He is survived by his widow, Maude; two daughters, Mary and Gertrude; five grandchildren, and four great-grandchildren. Dr. Nethercott was the last of his family.

Grant Vernon Smith Ford—Dr. Grant Vernon Smith Ford of Vancouver, B.C., died early in June.

Born in Norwood, Ontario, he went to Vancouver at an early age, where he took most of his schooling. He graduated in dentistry from Northwestern University in Chicago in 1913. He practised in Vancouver since his graduation, until his retirement in 1951.

Dr. Ford was a member of the Marine Drive Golf Club, the Vancouver Pioneer Schoolboys, the YMCA, the Vancouver & District Caged Birds Society, and the B. C. Budgerigar Society.

He is survived by his widow, Vera.

Percy Charles Thomas—Dr. Percy Charles Thomas of Vancouver, B.C., died on July 2nd. He was 77.

Dr. Thomas was born in London, England and graduated from Philadelphia Dental College in 1907.

Palmer H. B. Wood—Dr. Palmer H. B. Wood of Winnipeg died June 1st at Manistique, Michigan. He was 68.

Dr. Wood was born in Birtle, Manitoba and attended dental college at the University of Chicago, obtaining his degree from the Royal College of Dental Surgeons of Ontario in 1920. He commenced his practice at Dryden, Ontario and went to Winnipeg in 1938.

He was a member and past president of the Manitoba Dental Association and a member of the War-Time Pilots and Observers Association, having served with the Royal Flying Corps during the First World War. He had been a member of the Independent Order of Oddfellows for many years and belonged to St. Aidan's Anglican Church, serving for a period as rector's warden.

He is survived by his widow, Sophie; a son, H. Gary, Saskatoon; a daughter, Mrs. R. L. Masterman, Windsor, Ont.; six grandchildren, and a sister, Mrs. Arthur Meighen, Toronto.

William James Milton Lloyd — Dr. William James Milton Lloyd of Toronto died on June 12th. He was 61.

Born in Dufferin County where he received his early education, he graduated from the Royal College of Dental Surgeons of Ontario in 1923. He had practised in Toronto since graduation. From 1924-1936 he was with Old Grace Hospital at Huron and College Street. He was a Mason and member of the United Church.

Surviving are his widow Clara Peter; son Bruce; and sisters Mrs. E. H. Ewing (Pearl), Mrs. W. D. Donnelly (Lulu) and Mrs. S. V. I. Marison.

REGISTRATION FORM

Must be accompanied by Cheque or Money Order
Payable to C.D.A. 1960 Convention Committee

Canadian Dental Association,
c/o Ottawa Tourist & Convention Bureau,
70 Nicholas Street,
Ottawa, Ontario.

Ottawa, Ontario,
September 25-28, 1960.

NAME

ADDRESS

CITY PROVINCE

WIFE'S NAME

Golf Yes..... No.....

REGISTRATION FEE:

Single \$35.00
Wife \$15.00
Both \$50.00
Includes the President's Dinner and
all Official Functions.

HOUSING ACCOMMODATION APPLICATION

....Hotel Room	Single....	Twin Beds....	Double Bed....	\$10.00 to \$16.50	{ Double Occupancy European Plan
....Motel Unit	Single....	Twin Beds....	Double Bed....	9.00 to 14.00	
....Tourist Home	Single....	Twin Beds....	Double Bed....	5.00 to 8.00	

Complete all three in order of preference by marking (A) (B) (C).

In view of the large attendance expected, it might be to your advantage to share a room with another member. Please mention below the name of the person with whom you would like to share your accommodation, otherwise assignment will be made by the Housing Committee.

Names of persons sharing accommodation:

Names &

Addresses &

City &

Arriving Ottawa onat..... a.m.

Departing Ottawa onat..... a.m.

Travelling by Car..... Train..... Air..... Bus.....

POST CONVENTION PACKAGE TOURS

3-day Laurentian Bus Tour DeLuxe: Mont Tremblant Lodge and The Chantecler. All inclusive except gratuities. \$40.00. Yes.....

8-day T.C.A. Tours from Ottawa: All inclusive except gratuities on land portion Bermuda \$265.00 Yes..... Nassau \$315.00 Yes.....
Take advantage of through fare to your post-convention island. Consult your local T.C.A. office.

Advanced and early registration will be very much appreciated by your committee
and will be most advantageous to the registrant.

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1960	Ottawa, Ontario	Sept. 25th-28th
1961	Saskatoon, Saskatchewan	June 4th-7th
1962	Vancouver, British Columbia	June 3rd-6th
1963	Toronto, Ontario	May 19th-22nd
1964	Edmonton, Alberta	June 28th-July 1st
1965	Quebec City, Quebec	May 30th-June 2nd
1967	Toronto, Ontario	May

(Centennial Celebration
of Dentistry in Canada)

FUTURE EVENTS

Date	Function	Location	Officer	Address
Sept. 9-10, 1960	Northern Ontario Dental Ass'n. Convention	Coulson Hotel, Sudbury, Ont.	Dr. G. P. Copeland,	47 Davidson St., Sudbury, Ont.
Oct. 13-15, 1960	American Academy of Periodontology Annual Meeting	Miramar Hotel, Santa Monica, California	Dr. H. A. Hartman,	4187 Pearl Rd., Cleveland 9, Ohio
Oct. 14-16, 1960	American Society of Dentistry for Children	Ambassador Hotel, Los Angeles	Dr. C. F. Tuma,	13201 Miles Ave., Cleveland 5, Ohio.
Oct. 14 & 15, 1960	American Academy of Gold Foil Operators	Los Angeles, California	Dr. C. C. Latham,	P.O. Box 266, Coronado 18, Calif.
Feb. 3, 1961	Interim Meeting of American Academy of Gold Foil Operators	Loyola University, School of Den- tistry, Chicago, Ill.	Dr. C. C. Latham,	P.O. Box 266, Coronado 18, Calif.
May 21-24, 1961	Ontario Dental Ass'n. Convention	Royal York Hotel, Toronto, Ont.	Mrs. A. Durham,	230 St. George St., Toronto 5, Ont.

UNIVERSITY OF ALABAMA SCHOOL OF DENTISTRY

Two refresher courses are offered for October:

October 22, 23, 1960—Oral Rehabilitation.

October 29, 30, 1960—Hospital Protocol & Dental Therapeutics.

For further information: The Director, Refresher Course Program, University of Alabama School of Dentistry, 1919 - 7th Avenue South, Birmingham, Alabama.

AMERICAN ASSOCIATION OF ENDODONTISTS

On Thursday, February 2nd, 1961, in the Conrad Hilton Hotel, Chicago, the American Association of Endodontists is sponsoring a symposium entitled "Biology of Dental Pulp." The program is open to members and non-members alike. The fee for the entire day including lunch with the clinicians is \$25. Cheques, made payable to the Association should be forwarded to Dr. L. Parris, 1930 Chestnut St., Philadelphia, Pa. Attendance is limited.

Other information concerning dental meetings outside Canada is available at C.D.A. headquarters.

L'Association Dentaire Canadienne.

Volume 26

Numéro 8

août 1960

JOURNAL

Considérations sur la biopulpectomie

par HENRI SILBERT, L.S.D., D.D.S., Montréal

DÉFINITION

La pulpectomie ou l'extirpation pulpaire veut dire l'ablation complète d'une pulpe coronaire et radiculaire, normale ou pathologique. Cette intervention est parfois appelée "dévitalisation" ou "biopulpectomie".

La dent dont la pulpe est extraite s'appelle "dent morte", "dent dévitalisée", ou "dent non vivante".

Les appellations "pulpectomie", "biopulpectomie" ou "extirpation pulpaire" sont préférables au terme "dévitalisation".

INDICATIONS

1—Pulpite

2—Exposition pulpaire par la carie, l'attrition, l'érosion, l'abrasion et les blessures traumatiques.

3—Dégénérescence de la pulpe, infection, putréfaction, etc.

4—Travaux de prothèse fixe (exigeant des pivots, etc)

ANESTHÉSIE LOCALE

L'ablation d'une pulpe vivante (normale ou pathologique) est une opération extrêmement douloureuse. Aussi l'opérateur doit-il mettre en oeuvre tous les moyens possibles d'insensibiliser la région intéressée. L'anesthésie locale (injections infiltrantes ou régionales) est la méthode la plus simple d'anesthésier la dent en cause. Le clinicien devrait préférer une solution anesthésique de longue durée (Lidocaine-xylocaïne, — épinephrine 1,100,000). Une capsule suffit généralement pour insensibiliser la pulpe d'une dent. Une pulpe in-

flammée exigera parfois un supplément de 0.3 à 0.5 cc: l'inflammation sensibilise les cellules nerveuses, augmente la vascularisation et modifie le PH du milieu.

Les dents supérieures, en général, n'exigent pas d'infiltration palatine pour l'endodontie. Il est cependant des cas qui nécessitent une anesthésie de la muqueuse linguale (environ 0.5 cc) pour insensibiliser les fibres nerveuses de la papille gingivale et de la membrane péri-dentaire.

Les molaires inférieures, en plus de l'anesthésie mandibulaire, demandent l'insensibilisation du long buccal et une infiltration sus-périostéale au niveau des apex de la dent intéressée où on injecte lentement 1 cc de solution.

Une anesthésie intra-pulpaire est parfois indispensable pour supprimer complètement les sensations douloureuses.

L'anesthésie intra-pulpaire consiste à injecter sous pression directement dans la chambre pulpaire quelques gouttes de solution anesthésique. Cette injection peut se faire quand la pulpe est suffisamment exposée ou le canal suffisamment large pour permettre l'introduction de l'aiguille hypodermique. Il faut parfois plier l'aiguille pour favoriser sa pénétration. Il faut placer, pour prévenir le reflux de la solution, un rouleau de coton au-dessus de la cavité et le maintenir fermement au cours de l'injection. L'effet anesthésique est quasi-immédiat.

PLAIE PULPAIRE

La pulpectomie demande de la part de l'opérateur une connaissance adéquate de l'anatomie des canaux radiculaires et une certaine dextérité manuelle. L'intervention est faite avec des instruments très délicats et fragiles dans des endroits souvent difficile d'accès, notamment dans le canal radiculaire.

On oublie très souvent que l'extirpation d'une pulpe vivante, normale ou pathologique s'accompagne d'une laceration du tissu pulpaire: cela signifie l'arrachement du filet radiculaire de son canal, donc création d'une vraie plaie lacérée. Cette

laceration du tissu pulpaire provoque une réaction hémorragique, une inflammation et finalement une guérison. L'extirpation pulpaire, malgré la blessure qu'elle occasionne, déclanche rarement des phénomènes douloureux; ce paradoxe s'explique davantage par la constitution des tissus que par l'habileté de l'opérateur.

EMPLOI DU TIRE-NERF

Le choix du tire-nerf approprié a son importance. L'extirpation du filet radiculaire est une opération délicate, qui a une répercussion considérable sur le succès du traitement. L'amputation de la partie coronaire de la pulpe avec une curette parfaitement aiguisée ou une fraise ronde doit précéder le sondage du canal avec le tire-nerf.

Le filet radiculaire de la pulpe est alors extirpé grâce aux barbelures du tire-nerf. Celui-ci, s'il est trop gros, aura une tendance à pousser le tissu vers la région apicale ou à bloquer et se briser dans le canal dans son mouvement de rotation. Un tire-nerf trop fin, par contre, ballote dans le canal sans enrouler la pulpe sur ses aspérités. Il y a une gamme très variée de tire-nerfs, depuis les extra-fins jusqu'aux extra-gros; les uns ont des manches longs, les autres des manches courts. Les extra-fins ne sont pas pratiques: ils se fracturent à la moindre pression. Un tire-nerf, pour bien exécuter son travail doit être plus étroit que le diamètre du canal radiculaire. La technique classique pour vider un canal consiste à insérer le tire-nerf dans le canal jusqu'à l'apex de la dent, à lui imprimer un mouvement dans la direction des aiguilles d'une montre (afin d'engager le filet radiculaire) et à le sortir en parallèle aux parois du canal. Le tire-nerf n'est pas un instrument solide; il se brise à la moindre pression. Il faut le manipuler avec délicatesse et tact.

EXTIRPATION BIOLOGIQUE OU ANATOMIQUE?

La pulpectomie exige une extirpation et une obturation radiculaire biologiques. La qualité "biologique" de l'intervention repose sur le respect de l'intégrité des tissus

dento-cémentaires de l'apex de la dent. L'extirpation pulpaire ne doit jamais se pratiquer jusqu'à l'apex anatomique; il faut garder, chez l'adulte, une distance d'au moins 1 mm du foramen apical. Chez les enfants, dont l'ouverture apicale de la racine est béate, il faut redoubler de prudence au cours de l'extirpation apicale pour ne pas lacérer les tissus pulpaire apicaux; il est bon de laisser la pulpe intacte jusqu'à 2 ou 3 mm. du bout de la racine: celle-ci pourra ainsi parachever sa croissance normale. Il s'agit évidemment dans ces cas d'une pulpectomie partielle.

CONTRÔLE DE L'HÉMORRAGIE PENDANT LA BIOPULPECTOMIE

Il faut contrôler l'hémorragie au cours de l'extirpation de la pulpe. Ce contrôle s'obtient en lavant la chambre pulpaire et le canal avec de l'eau stérile ou oxygénée (H_2O_2) et en les asséchant avec des boulettes de coton stérile. On favorise la formation du caillot sanguin en insérant dans le canal une pointe de coton et en la laissant séjourner environ cinq minutes. Une hémorragie qui persiste malgré ce traitement se contrôle avec l'emploi d'une pointe de coton imbibée d'un agent hémostatique. Diverses substances hémostatiques peuvent s'utiliser: épinéphrine 1:100, glycérine d'alun (solution saturée d'alun dans des parties égales d'eau et de glycérine), solution de 20% d'acide tannique dans glycérine. La pointe de coton saturée de l'hémostatique séjourne dans le canal durant quelques minutes. L'action caustique de ces médicaments doit être neutralisée; on utilise, à cette fin, une irrigation du canal avec une solution de $NaOC_1$ (Zonite). Cette irrigation a pour but de prévenir une périécementite médicamenteuse, c.-à-d. d'une inflammation apicale de la membrane péri-dentaire.

Une hémorragie récalcitrante s'explique par la présence d'un fragment de la pulpe qui a échappé à l'action du tire-nerf dans le canal. Ce débris sera enlevé à l'aide des limes au cours de la préparation mécanique du canal. C'est alors que l'hémorragie cessera.

ABLATION DES DÉBRIS PULPAIRES

Le problème d'ablation des débris pulpaire qui séjournent dans la zone apicale du canal présente des complications ennuyeuses pour l'opérateur et pour le patient. Il est, en effet, extrêmement désagréable de constater que la pulpe n'a pas été complètement extirpée au cours de la première séance. Il faut donc, de toute nécessité, compléter l'évidement du canal durant la première séance de biopulpectomie. Deux facteurs influencent la procédure à suivre pour l'ablation des tissus pulpaire: l'âge du patient et le degré de fermeture apicale. On peut laisser en place ces fragments s'ils sont situés dans la région apicale, à 1 ou 2 mm du foramen et s'il s'agit d'un patient jeune. Il vaut mieux les négliger de peur de léser l'amas vasculo-nerveux de la zone ultra-apicale. Une dent adulte dont l'apex est bien fermé ne présente pas les mêmes dangers; on peut compléter l'ablation du tissu radiculaire sous anesthésie, en ayant soin de ne pas traumatiser les cellules dento-cémentaires. Les caustiques peuvent servir à éliminer, sans anesthésie, les filaments apicaux persistants. Ces caustiques sont, de préférence, le phénol liquifié ou l'acide trichloracétique à 50%. On prélève 2 ou 3 gouttes de caustique sur une lime no 2 et on l'enfonce dans le canal (le caustique adhère par capillarité). On prendra soin de ne pas forcer le médicament dans la région périapicale. On le laisse en place quelques minutes: l'agent caustique cautérise le filet radiculaire et permet facilement son ablation sans douleur. Le canal est ensuite irrigué avec une solution de $NaOC_1$ (Zonite) afin de neutraliser l'effet du caustique. Le caustique agit aussi comme hémostatique.

MÉDICATION DU CANAL RADICULAIRE

Le canal est asséché après l'arrêt de l'hémorragie et comblé temporairement d'un pansement, de préférence, sédatif et antiseptique. Les substances utilisées dans ce but sur les pointes de coton sont l'eugénol ou le Citronnellol. La pâte antibiotique polyvalente de Grossman (P.B.S.C.) ou la

pâte ophtalmique à base de néomycine et de cortisone (Néocortef) insérée directement dans le canal à l'aide du bourse-pâte Lentulo, peuvent s'employer quand on souhaite un effet bactéricide plus poussé ou une action anti-inflammatoire accentuée. Ce pansement doit séjourner dans le canal au moins pendant soixante-douze heures.

Le canal est prêt à recevoir son obturation définitive à la séance suivante, à condition que la dent ne montre aucun signe d'inflammation (douleur, mobilité, etc.) et que la culture bactériologique prise dans le canal soit négative.

L'opérateur doit changer le pansement et continuer la médication sédatrice et anti-inflammatoire, si, à la deuxième séance, il constate des signes d'inflammation (péricémentite). Cette médication doit se continuer jusqu'à disparition de ces symptômes.

Une culture positive requiert une thérapeutique antibiotique ou antiseptique, selon la préférence du dentiste. Il arrive parfois que des symptômes d'inflammation persistent à cause de sur-médication irritante. Ces cas se traitent en laissant dans le canal pour quelques jours une mèche de coton stérile sans y ajouter de médicament.

OBTURATION DÉFINITIVE DU CANAL

Une question se pose souvent. A quel moment après l'extirpation pulpaire peut-on procéder à l'obturation finale et hermétique du canal? Certains auteurs préconisent d'obturer le canal immédiatement après l'extirpation pulpaire, c.-à-d. à la même séance. Nous croyons, au contraire, qu'il vaut mieux, en général, ne pas bloquer le canal immédiatement après l'extirpation de la pulpe, surtout si l'opération a été pratiquée sous anesthésie locale. Et pour les raisons suivantes:

1) La solution anesthésique contient de l'épinephrine dont le rôle est de produire une constriction des capillaires sanguins. Cette vaso-constriction passagère est suivie d'une dilatation qui favorise un épanchement de sang dans le canal. L'apex scellé hermétiquement

par l'obturation empêche cet afflux de sang de s'étendre dans le canal; ce sang se localise dans la région périapicale, détermine une inflammation dans cette région et toutes ses manifestations pathologiques: douleur, enflure, gêne au niveau de la racine de la dent traitée.

- 2) L'ablation du tissu pulpaire déclenche une réaction inflammatoire dans la zone où l'amputation a été faite; ces phénomènes exigent environ vingt-quatre heures pour s'atténuer.
- 3) La pulpe ne peut s'enlever complètement dans une même séance. Quelques filaments pulpaire adhèrent encore aux parois du canal. Ces débris doivent être enlevés avec des limes à la seconde séance. Ces fibres, si elles sont abandonnées dans le canal, peuvent déclencher par la suite une irritation et même une infection.
- 4) Il est extrêmement difficile, en présence d'anesthésie, d'obtenir une condensation convenable de l'obturation du canal. Un guide précieux, c.-à-d. la légère douleur que ressent le patient quand les tiges s'engagent au delà de l'apex, est absent. L'obturation risque de dépasser le foramen apical et de causer des ennuis plus tard.
- 5) Il faut s'assurer, avant d'obturer définitivement le canal, qu'il est stérile. Cette épreuve s'accomplit à l'aide d'un test bactériologique, qui établit la présence ou l'absence de micro-organismes. Cette culture doit être incubée durant au moins vingt-quatre heures. L'obturation immédiate du canal ne permet pas d'obtenir ce renseignement. L'épreuve microbienne est quasi-indispensable au succès de l'intervention. Ostrander, à ce sujet, déclare: "Une compilation d'un certain nombre de cas de traitement de canal, n'accusant aucune douleur post-opératoire, a révélé que 49.9% de ces canaux étaient infectés."

Le scellement du canal immédiatement après l'extirpation de la pulpe, comporte le risque très grave de l'obturer en présence de bactéries et invite, par la suite, une infection péri-apicale.

DÉCOLORATION DE LA DENT

La décoloration de la dent est pour le patient une conséquence désagréable de la biopulpectomie. Cette question se relie au contrôle inadéquat de l'hémorragie du tissu pulpaire au cours de l'intervention. On peut atténuer cette décoloration en

empêchant le sang d'infiltrer les tubuli dentinaires. Les irrigations fréquentes du canal et de la chambre pulpaire avec du peroxyde d'hydrogène (3% - 10 volumes) et l'asséchage fréquent du canal à l'aide de pointes hydrophiles peuvent contrôler l'hémorragie provenant du canal radiculaire.

ENDODONTIE PULPITE

Les objectifs de traitements et procédures

1ère séance*

Objectifs

1. Sédation pulpaire.
2. Réduction de l'activité bactérienne pulpaire.

Procédures:

1. Anesthésie locale.
2. Extirpation de la carie.
3. Stimulation du flot de l'excès sanguin de l'exposition pulpaire.
4. Contrôle et élimination du sang.
5. Eugénol ou Citronnellol au dessus de l'exposition pour 24 ou 48 hrs.

2ième séance

Objectif

1. Extirpation pulpaire.

Procédures:

1. Anesthésie locale.
2. Trépanation du canal.
3. Extirpation de la pulpe.
4. Contrôle de l'hémorragie.
5. Prise de culture (test bactériologique).
6. Traitement du canal à base d'eugénol ou Citronnellol pendant 72 hrs.

3ième séance

Objectif

1. Obturation définitive du canal.

Procédures:

1. Elargissement du canal.
2. Obturation du canal.

REMARQUE:

*En l'absence des symptômes aigus, le premier traitement peut être éliminé. On peut procéder à l'objectif de la deuxième séance.

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4001 Lacombe

Discours du Président du Collège des Chirugiens-Dentistes de la P. de Qué.*

JEAN-PAUL LACHAPPELLE, B.A., D.D.S., Montréal

Votre Association a bien voulu, une fois de plus, accueillir les représentants de votre Collège provincial et mettre à leur disposition le temps de ce magnifique déjeuner pour favoriser avec tous une rencontre agréable et utile, du moins nous l'espérons.

Mes collègues et moi-même sommes d'ailleurs très sensibles à cette attention, et, permettez M. le Président, que nous vous exprimions toute notre gratitude, pour cette occasion que vous nous offrez de saluer nos commettants et d'avoir avec eux une rencontre enrichissante où les problèmes majeurs de la profession pourront être brièvement évoqués dans un climat de bonne entente et de coopération.

RÉALISATIONS ET PROJETS

Messieurs, durant près de deux ans, j'ai eu l'honneur de présider aux destinées de notre profession dans cette province.

J'ai le sentiment que votre Collège a rempli son rôle consciencieusement, et qu'il a abattu à date une bonne besogne, et ceci avec un bel esprit d'équipe. De plus, il a nourri des projets qui devraient augurer des jours meilleurs pour tous.

Votre Association également, s'est montrée à la hauteur de sa tâche . . . Elle a certes débuté dans de grandes difficultés . . . c'est le lot des grandes organisations. Mais aujourd'hui, si l'on en juge par le succès de ce congrès, elle est engagée dans la bonne voie. On m'apprend que l'an prochain, la ville de Sherbrooke sera l'hôte de votre groupement.

J'entrevois donc pour nous des lendemains encore plus brillants, et qui sait, si plus tard, l'union de toutes nos sociétés dentaires (francophones — anglophones — ou hébraïques) du Québec, ne pourrait couronner d'une façon magnifique des efforts si bien amorcés.

Messieurs, devant l'urgence et la gravité des problèmes nouveaux qui nous confrontent présentement et l'essor que nous voulons donner à notre Collège, nous avons été conscients de la nécessité primordiale d'une refonte de notre structure administrative, afin de lui donner plus d'efficacité et une vigueur nouvelle et permettre les réalisations multiples que sollicitent de plus en plus, les progrès constants de la profession et l'évolution sociale, rapide et sans pitié de notre milieu.

A la tête de notre Secrétariat, nous avons eu la main heureuse en nommant un confrère de grande valeur et de grand talent en la personne du Dr Robert M. LeBlanc, de Sherbrooke.

En votre nom, permettez que je lui souhaite la plus cordiale bienvenue et l'assure de toute notre collaboration dans sa nouvelle fonction qui sollicitera tout son dévouement et ses meilleures initiatives.

En faisant un retour sur un passé récent, je pourrais vous entretenir longuement des nombreux problèmes sur lesquels s'est penché votre Bureau Provincial actuel. En effet, nous avons réorganisé notre secrétariat, avec un équipement moderne de filières, d'imprimerie, de clavigraphes, sans parler de l'ameublement du bureau . . . le tout dans un local adéquat et digne d'une corporation de notre importance.

Plusieurs lois et règlements furent amendés . . . comme la nouvelle répartition des gouverneurs et un nouveau mode électoral. De plus, nous voulons organiser des services dentaires complets dans tous les hôpitaux de la Province; nous voulons réglementer nos rapports avec les unions et les syndicats; enfin, nous voulons faire un code de déontologie qui deviendra obligatoire pour tous les dentistes de la Province de Québec.

*Prononcé au Congrès de l'Association dentaire de la province de Québec, le 27 mai 1960.

Des résolutions des plus opportunes et spectaculaires à la fois furent prises; entr'autres sur la fluoration des eaux de consommation et sur l'approbation d'honoraires de base pour soins dentaires, qui ont d'ailleurs reçu un accueil on ne peut plus enthousiaste chez un plus grand nombre.

Je m'en voudrais de ne pas souligner ici un succès notable que la profession vient de remporter en se faisant accepter comme membre associé de l'Association des Hôpitaux du Québec . . . et plus récemment la belle réception que l'on a faite à une résolution du Collège au dernier Congrès de cette Association.

Mes chers confrères, pour débiter, je veux mettre en lumière devant vous, ce que l'actualité économique et sociale pose comme problème à notre profession. Voici donc, le message important que je me dois de vous faire, à titre de Président du Collège des Chirurgiens-Dentistes de la Province de Québec.

II. LES DROITS DE LA SOCIÉTÉ:

Messieurs . . .

Si nous sommes trop cramponnés à vouloir garder jalousement nos prérogatives, sans nous soucier davantage de l'aspect social de notre pratique, nous serons dépassés, à brève échéance, par l'évolution elle-même de notre milieu, à laquelle nous n'aurons pas su nous adapter, à cause, soit de notre inconscience, soit de notre indifférence.

Ne soyons pas dès lors surpris, si un jour, qui pourrait être plus près de nous qu'on le croit, nous nous voyons forcés par des événements qui nous apparaîtraient dès lors fortuits, de niveler nos aspirations dans les cadres du monde syndical, industriel ou d'un fonctionnarisme gouvernemental. C'est pourquoi, dans une attitude d'adulte, nous devons remplir notre rôle avec dignité et réalisme, sans lésinerie, ni défaillance . . . et pour faire un rapprochement d'idée qui fera mieux ressortir ma pensée, permettez que j'emploie analogiquement ces mots de St-Paul "Débarrassons-nous du vieux levain; il faut que nous soyons une pâte nouvelle."

Si nous croyons que la dentisterie n'est pas un métier, mais un service social de première importance, comme une branche de la médecine, qui exige de nous un certain souffle spirituel attaché à toute vocation supérieure, nous accepterons de grand coeur de "composer" avec les données nouvelles de la sociologie moderne et de notre monde actuel en pleine crise de malaise et d'insécurité sociale.

Incontestablement, la Société a des droits prioritaires vis-à-vis de nous, quoique la profession parallèlement elle-même ait ses droits.

En effet, les droits de la profession n'ont de sens qu'en autant que les droits de la société seront d'abord les premiers sauvegardés et l'on concèdera de grands privilèges aux professions, si les meilleurs services sont rendus à la société.

En conséquence, nous devons donc mettre de l'avant certaines organisations ou créer certains cadres pour répondre aux besoins dentaires *réels* et *urgents* de notre population, en particulier de certaines catégories de malades, de tous les enfants quelle que soit leur origine sociale, et enfin des économiquement faibles.

Et pour ce faire . . . disons que comme objectif général, la profession a le devoir de s'adjoindre, si nécessaire, du personnel auxiliaire qualifié, pour que le plus grand nombre de soins dentaires soient prodigués, tout cela évidemment, sous le contrôle de la profession elle-même. C'est pourquoi, nous étudions sérieusement le problème de nos techniciens dentaires et celui des hygiénistes dentaires féminines.

Egalement, c'est ici que se pose sérieusement le problème du recrutement des futurs dentistes et la profession doit s'en occuper dans le plus bref délai possible . . . à cause de la socialisation rapide de toutes nos institutions.

Maintenant, en vue de meilleurs soins dentaires dans certains champs de notre pratique, et pour certaines catégories de patients malades que le bureau particulier ne peut accueillir, l'hôpital doit venir en aide comme réponse à ces besoins. Et

n'oublions pas que l'hospitalisation dentaire n'est pas la responsabilité exclusive de notre profession, mais bien également la responsabilité du corps médical et administratif (hôpitaux).

Et pour les nombreux cas d'urgence dentaire (hémorragie, douleurs intenses, accidents etc. . .) l'hôpital, du moins pour les grandes villes, est souvent indispensable, en particulier pour fins de semaine, ou la nuit.

L'Assurance-Hospitalisation pourra également rendre service à certains de nos patients qui voudront profiter de ces avantages.

En vertu d'un principe également reconnu de tous, tous les enfants, à quelque classe sociale qu'ils appartiennent, doivent avoir droit aux soins dentaires . . . C'est pourquoi, nous devons exiger de nos municipalités la création de cliniques pour enfants, là où il n'y en a pas et où ce serait possible financièrement parlant.

Pour permettre à tous de se faire soigner, un système de paiements différés ou de dentisterie à crédit, mettra à la portée des familles nombreuses, des petits salariés, la possibilité de soins dentaires convenables.

Comme vous le savez, le crédit est une des innovations de notre siècle. Tout s'achète à crédit et il n'y a aucune raison que ce système ne soit pas appliqué aux traitements dentaires.

Ce plan sera appliqué dans notre province sous le patronage du Collège et des explications précises sur son fonctionnement vous seront faites en temps opportun, soit collectivement, soit en particulier.

Messieurs, le prestige de notre profession sera grand si on le place sur les deux grandes assises: la grandeur et la compétence des dentistes. Le dentiste est la colonne vertébrale de toute réussite des initiatives que votre Collège peut prendre dans tous les domaines. Il doit apporter assez d'honnêteté intellectuelle et morale pour saisir les besoins actuels, urgents et nombreux de notre milieu social et y apporter toutes les solutions généreuses dont il est capable, dans les limites de ses possibilités.

Evidemment, devant toutes ces nouvelles initiatives qui nous sollicitent, nous ne serons pas à l'abri des erreurs, même de certains échecs . . . ce qui d'ailleurs, nous incitera à travailler davantage, et à nous renouveler sans cesse dans nos méthodes de servir . . . Le premier but des professions médicale et dentaire n'est-il pas de servir le souffrant, le malade et de le réhabiliter, en y apportant beaucoup de sympathie et beaucoup de sens du devoir.

On s'étonne toujours de voir des gens de culture, qui ont étudié, pesé des concepts abstraits de philosophie sociale et qui y ont même fait des distinctions voire subtiles; on s'étonne toujours, dis-je, que ces gens ne puissent, dans leur sphère respective, donner aucune application pratique de leurs connaissances théoriques en regard de leurs services dans leur milieu défini.

Egalement, s'il est beau de voguer dans les hautes sphères de la dentisterie au service des classes privilégiées, il ne nous est pas moins impérieux et noble de rendre aux autres classes un service dentaire intégral en accord avec les grands objectifs de la profession. Nous devons tous sortir de nos tours d'ivoire, nous retrousser les manches et mettre la main à la pâte.

Je suis convaincu que nous réserverons alors un avenir des plus brillants à la profession et à son prestige. Nous reconnaitrons donc les droits de la société vis-à-vis de notre profession.

III. DROITS DE LA PROFESSION:

De ce fait, il n'est évidemment pas question d'exclure les droits acquis de la profession elle-même.

Je sais qu'aujourd'hui il est une certaine vogue, chez certains dirigeants qui veulent jouer à la vedette, de déprécier publiquement les professions par des déclarations saugrenues où l'on crie au scandale et où l'on monte en épingle les quelques lacunes qui sont propres à toute institution humaine, même chez les politiciens.

Nous protestons vigoureusement contre cette campagne de dénigrement pour fin de capital politique uniquement ou de lutte de classes.

A écouter ces messieurs, nous ne sommes que des gens vénals et tous les services que nous rendons ne nous coûtent rien ou presque rien, en signe de \$.

Les minéraux, à l'état naturel dans le sous-sol, ne sont d'aucune valeur, mais la manipulation et la transformation laborieuse qu'ils exigent en font des métaux précieux. Il en est de même de tout matériel brut que l'on transforme pour lui donner une valeur réelle.

Le dentiste, en plus d'une formation universitaire, qui a exigé argent et sacrifices, a des problèmes sérieux de pratique et d'administration: loyers, téléphone, matériel dispendieux, personnel auxiliaire, équipement prohibitif . . . Le cabinet du dentiste est un petit hôpital avec R.X. et une instrumentation ultra moderne. Par conséquent, il présente les mêmes problèmes financiers que ceux des hôpitaux, à une échelle plus petite évidemment.

A la valeur du service lui-même se joignent donc les frais d'exploitation très élevés, et, c'est pourquoi, devant le malaise général qui sévissait chez tous ses membres, le Collège des Chirurgiens Dentistes a dû présenter une base d'honoraires en-dessous de laquelle toute pratique devient intenable et ne peut répondre aux exigences minima de nos standards professionnels.

Si la population ne veut accepter au moins ces prix minima, elle aura à brève échéance une dentisterie rétrograde.

De toutes les provinces du Canada, les dentistes du Québec sont de ceux qui ont les plus bas revenus . . . ce qui explique dans bien des cas et dans certaines régions, que les soins dentaires soient parfois de mauvaise qualité à cause des bas honoraires qui y sont attachés.

Dans le cadre actuel de notre régime démocratique, la profession n'a pas le droit d'abaisser ses honoraires pour rendre des services amoindris. La profession se doit toujours de donner au moins des soins

convenables et adéquats, et non à ses propres frais. L'Etat, à tous ses paliers, et les organisations sociales dès lors devront jouer leur rôle pour le maintien d'un haut niveau de santé et de soin chez sa population.

Et ceux à qui l'on sert ces fumisteries ou ces déclarations à sensation, dans le domaine des professions, sont victimes de hâbleurs intéressés.

Les professions devraient pouvoir donner à tous les meilleurs services, surtout dans le domaine de la santé, et les états doivent donner confiance aux corps professionnels et les protéger même, contre tout ce qui pourra diminuer les standards qu'ils se doivent d'atteindre ou les acculer à des difficultés financières sérieuses, qui en somme seraient au détriment de leurs patients.

La profession dentaire du Québec, tout en coopérant à la diffusion des meilleurs services, est jalouse de toutes ses prérogatives et a le devoir de les défendre.

La pratique dentaire est épuisante, dure, et terrasse vite son homme . . . Il est juste du moins, qu'elle le fasse vivre, lui et sa famille, de façon convenable et qu'elle assure une retraite honorable à ceux qui s'y dévouent pour le bien de la collectivité.

Messieurs, on se doit de travailler à l'équilibre et à l'harmonie entre les classes sociales et c'est dans cet esprit de justice et ce sens de responsabilités, que nous, les dentistes du Québec, voulons collaborer à promouvoir la santé générale et dentaire de nos concitoyens. Il est vrai que si les droits des uns et des autres sont satisfaits dans l'accomplissement des devoirs réciproques, il faut également que l'exercice de toutes les professions soit en accord avec l'ensemble des institutions sociales et politiques de leur milieu.

Messieurs, j'espère que vous avez saisi le sens du message de votre Président et des Gouverneurs de votre Bureau Provincial et qu'il trouvera un écho vibrant dans tous les esprits et tous les coeurs.

Je vous remercie, Messieurs, de votre attention, et, en terminant, je voudrais ici officiellement et publiquement rendre un

hommage de gratitude à tous les dévoués collègues, les Gouverneurs, qui m'ont secondé de façon admirable dans la lourde tâche qu'ils m'ont confiée de présider, ces deux dernières années, aux destinées de notre belle profession.

RÉPRESSION DE LA PRATIQUE DENTAIRE ILLÉGALE

Certes, tous les techniciens dentaires illégaux n'ont pas été traduits devant les tribunaux, mais ce comité a réussi à faire condamner presque tous les cas qui ont été portés à son attention. Voici le rapport de ce comité depuis le 1er juillet 1959 au 1er juillet 1960.

Causes gagnées	89
Causes inscrites	14
Mandats d'arrestation (servis)	3

Mandats d'arrestation (à servir)	4
Causes à inscrire	22
Enquêtes en marche	18
Ont fait de la prison	3

Le Collège veille sans relâche, mais il faut que les dentistes qui ont des plaintes coopèrent avec le Bureau Central ou avec les confrères qui sont en charge dans les différentes régions. Il faut avoir des faits et non pas seulement des suppositions pour se présenter à la Cour. Il est impossible de procéder sur des probabilités.

Les tracas de la réorganisation de notre administration nous ont forcés de négliger notre service d'information. Soyez assurés qu'à l'avenir nous vous ferons parvenir régulièrement les nouvelles d'intérêt général qui vous permettront de demeurer en contact avec votre Collège.

Notre union fera notre force.



Journées dentaires internationales à Paris en novembre 1960

Suivant une tradition qui remonte à 1920, les XXXIVèmes JOURNÉES DENTAIRE INTERNATIONALES DE PARIS se tiendront du 21 au 27 novembre 1960, à la Maison de la Chimie, 28 bis, rue Saint-Dominique, Paris, 7^e, sous la Présidence scientifique de M. le Professeur Jean BERNARD, Professeur à la Faculté de Médecine de Paris, Médecin de l'Hôpital Saint-Louis.

Les membres du Comité d'Organisation et leur Président, M. Robert M. P. DUPONT, ont prévu un ensemble de manifestations scientifiques et artistiques qui assureront l'habituel succès de ce Congrès.

La partie scientifique comprendra:

1. Des séances tenues dans le grand amphithéâtre de la Maison de la Chimie. La traduction simultanée permettra aux auditeurs français et étrangers de suivre les exposés et les discussions.

2. Des tables-cliniques, installées dans des salles réservées, seront présentées chaque jour.

3. Une exposition groupera des fournisseurs, laboratoires, fabricants de produits dentaires et de matériel qui, par leur fidèle collaboration, contribuent grandement à la réussite de cette manifestation.

4. Des tables de démonstration seront présentées journellement où fabricants et grossistes-importateurs montreront leurs dernières nouveautés françaises et étrangères.

Enfin, le programme offrira aux congressistes inscrits et aux personnes les accompagnant la possibilité de participer aux festivités dont le détail sera prochainement publié.

Pour tous renseignements, s'adresser au Secrétaire Général: M. Jean BOURSIER, 17, rue du Colisée, Paris, 8^e.

Congrès de l'Association dentaire canadienne, à Ottawa les 25, 26, 27 et 28 septembre 1960



Hôtel de la Monnaie

Organisation générale

Plus de cinquante conférences ou cliniques, couvrant tous les domaines de l'exercice dentaire.

Traduction simultanée en français des conférences et des discours prononcés en anglais; traduction en anglais des communications prononcées en français.

Colloque sur l'aspect social et économique de la profession.

Télévision à circuit fermé.

Exposition scientifique.

Programme social chargé — visites et réceptions pour les dames.

Réception dans le nouvel édifice de la Galerie nationale du Canada.

Discours du très Honorable John Diefenbaker, premier ministre du Canada.

Les membres du Conseil des Gouverneurs de l'A.D.C., pour la première fois, siégeront dans la salle des comités du Sénat; à l'Edifice du Parlement.

Voyages après le congrès — en autobus (3 jours) au Mont-Tremblant et à l'Hôtel Chanteclerc. Tout compris: \$40.00 — en avion (8 jours) aux Bermudes \$265.00, à Nassau, \$315.00, en Jamaïque \$378.50.

Inscription: \$35.00 — épouse \$15.00 — comprenant le dîner du président et les autres items du programme.

On s'adresse pour tous renseignements et pour la réservation de chambres à l'Association dentaire canadienne, a/s Bureau des Touristes et des Congrès d'Ottawa, 70 rue Nicholas, Ottawa, Ontario.

Nouvelles de l'Association

Réunion au sommet de l'A.D.C. et de l'A.D.A.

Les dirigeants et les officiers supérieurs des Associations dentaires canadienne et américaine se sont réunis à Toronto les 6 et 7 mai dernier. L'objet de cette rencontre était de discuter des moyens à prendre pour prodiguer des services dentaires à un plus grand nombre d'individus.

Le docteur William G. McIntosh, président de l'Association dentaire canadienne, en annonçant cette conférence, a déclaré qu'il se réjouissait de cette occasion qu'ont les deux associations d'échanger leurs opinions sur la question d'étendre les services dentaires. Le Conseil des Gouverneurs et plusieurs officiers de l'A.D.A. étaient présents. L'A.D.C. était représentée par son Comité Exécutif, certains présidents de comités et les membres de son personnel régulier.

La fluoruration s'étend lentement

Seulement quatre municipalités ont adopté la fluoruration en 1959. En 1958, onze villes avaient commencé cette mesure.

Le Conseil des Territoires du Nord-Ouest a décidé récemment de fluorer son eau pour améliorer la santé dentaire de sa population. Yellowknife, T.-N.-O., qui a une population de 3200 habitants, fluorure son eau de consommation depuis le 11 août 1959. Environ 37 millions de citoyens de 1,900 villes des Etats-Unis consomment de l'eau fluorée et 7 millions d'habitants boivent de l'eau qui contient naturellement du fluor.

L'Association dentaire canadienne a soumis un mémoire au Comité d'Enquête sur la Fluoruration d'Ontario, qui tient des assises publiques depuis le 2 mai. Le Collège Royal des Chirurgiens-Dentistes d'Ontario, l'Association dentaire d'Ontario et la Ligue de Santé du Canada ont fait de même. Les adversaires de cette mesure se sont fait entendre bruyamment au cours de ces séances publiques.

Relevé sur les recherches dentaires qui révèle des changements drastiques

Le Comité des Recherches de l'A.D.C. vient de terminer un relevé qui indique deux faits à noter dans le domaine des recherches dentaires: augmentation remarquable des recherches menées au Canada et accent mis sur des recherches fondamentales, de longue haleine; ce relevé faisait suite à celui entrepris par ce comité en 1954. Il rapporte aussi que le nombre des chercheurs entraînés pour ce travail exécuté dans les

facultés dentaires canadiennes a presque doublé depuis cinq ans. C'est beaucoup grâce aux bourses de recherches offertes par l'A.D.C. que ces résultats ont été obtenus.

On avait enquêté, en 1954, sur les recherches menées dans les facultés dentaires. Le complément entrepris en 1959 couvre en plus des facultés, les Ministères de santé fédéral et provinciaux, le Ministère de la Défense nationale et quelques services de santé municipaux.

Les renseignements donnés par le relevé de 1959 montrent que le nombre et le genre des recherches conduites dans les facultés ont varié d'une façon extraordinaire et dramatique. Toutes les six facultés ont maintenant des programmes de recherches, alors qu'il y a cinq ans, seulement deux écoles sur cinq faisaient de la recherche. Les locaux consacrés aux recherches sont huit fois plus spacieux qu'en 1954 et les départements de sciences de base des autres facultés collaborent avec le corps professoral des facultés dentaires dans le domaine des recherches.

Quoique le nombre des membres du personnel enseignant qui font des recherches n'a pas beaucoup varié depuis 1954, le genre de ces membres a beaucoup varié. Le nombre de ceux qui n'avaient qu'un D.D.S. a baissé de 10 (33% du total) qu'il était en 1954 à 3 (11% du total), en 1959. Cette constatation indique probablement une diminution des projets de recherches à court terme conduits par des praticiens travaillant dans des laboratoires à temps partiel. Le nombre des chercheurs qui ont un D.D.S. et un degré de sciences de base a augmenté de 11 (37% du total) qu'il était en 1954 à 21 (75% du total), en 1959. C'est certainement une modification importante. Ces faits montrent que l'encouragement offert à de jeunes diplômés pour acquérir une formation plus poussée en sciences de base qui leur permet de se qualifier comme chercheurs et professeurs a porté des fruits. Les dentistes qui ont obtenu cet entraînement supplémentaire en sciences de base et qui sont des chercheurs et des professeurs de carrière, entreprennent généralement des recherches de longue haleine dans des domaines fondamentaux et ces travaux sont plus profitables que de plus courts.

Le nombre des techniciens de laboratoire utilisés pour les projets de recherches dans les facultés dentaires n'a pas augmenté depuis cinq ans, mais le nombre d'heures qu'ils ont consacrées à leur travail a presque triplé. Une faculté forme encore elle-même presque exclusivement ses jeunes diplômés à devenir des chercheurs. Il faut souhaiter que les autres facultés dentaires, à mesure que

leurs recherches prennent plus d'envergure, commencent à prodiguer des cours gradués à leurs jeunes diplômés, car les cours gradués et les recherches vont de pair.

Le salaire des dentistes s'occupant de recherches étaient surtout payés, il y a cinq ans, avec des bourses d'études. Aujourd'hui, presque tous les honoraires de ces gens sont payés par les universités elles-mêmes et ce changement indique qu'elles reconnaissent l'importance des recherches dentaires. Le salaire du personnel technique est encore surtout payé avec des bourses.

Les argents versés par le Conseil national des Recherches pour des bourses de recherches dentaires ont augmenté de \$23,645 qu'ils étaient en 1954 à \$53,800 en 1959. Les fonds provenant du Conseil et de l'A.D.C. pour défrayer les dépenses de dentistes aux études en recherches se sont chiffrés à \$10,-108 en 1954 et à \$30,107 en 1959.

Le personnel des unités sanitaires du gouvernement et du Corps Royal Dentaire Canadien s'occupe de recherches dans divers domaines, surtout dans l'application de fluor d'étain. Un projet cherche à évaluer l'efficacité de comprimés de fluor de sodium comme mesure préventive contre la carie dentaire. De plus, certains organismes s'occupent à constituer un Index de Santé dentaire — qui n'existe pas encore au Canada. Le montant exact d'argent consacré aux recherches dentaires au Canada est difficile à établir. Les données des cinq dernières années montrent que les recherches dentaires prennent un essor considérable, mais il faut en démontrer encore l'importance pour obtenir plus de fonds pour les entreprendre.

La province de Saskatchewan rescinde sa loi de 1959

La Législature de Saskatchewan, en acceptant les recommandations de la profession dentaire, a rescindé la loi qu'elle avait adoptée, l'an dernier, au sujet de la prothèse dentaire; elle a aussi approuvé, à sa session de 1960, un projet de loi supplémentaire pour l'enregistrement et l'octroi de licence aux techniciens qui ressemble aux lois qui ont cours dans les autres provinces. Les soi-disant "denturistes" ont vu rejeter un bill qu'ils avaient présenté.

La profession dentaire, avait présenté un bill (No 90), en 1959, et ce bill avait été amendé d'une façon drastique par la Chambre. Ces amendements accordaient à pratiquement quiconque, sans ou avec les qualifications nécessaires, le droit d'exercer la dentisterie (excepté l'extraction des dents).

Le bill présenté cette année renfermait les clauses qui avaient été retranchées, l'an dernier, et ces clauses ont été adoptées le 25 mars avec des amendements de peu d'importance. La loi possède une définition de la dentisterie (comme en Ontario et dans les

autres provinces, avec l'addition des mots "pour retenir, profit ou but de gain") et une clause touchant les ordonnances. Un des amendements de 1960 permet les réparations mineures (à être définies) des dentiers, sans prescription d'un dentiste.

On attribue le succès remporté en 1960 par la profession dentaire de Saskatchewan à la campagne d'arrache-pied qu'ont menée depuis dix mois les dentistes de cette province.

Editorial du Regina Leader-Post sur la législation récente de Saskatchewan Victoire des dentistes

On a réglé le problème compliqué de la latitude à accorder aux denturistes dans leurs rapports directs avec le public. La Législature a adopté deux des trois bills qui lui étaient présentés à cette session au sujet de questions dentaires.

La loi établissant une Association de Techniciens dentaires a subi jeudi sa dernière lecture. On y fit un amendement pour permettre aux denturistes publics qui exerceraient le 1er avril de cette année de devenir, sur demande, membres de l'Association sans avoir à subir d'examen. La Législature a approuvé, vendredi après-midi, le projet de loi qui amendait la loi de la profession dentaire de 1959. Cette nouvelle loi annule les clauses de la loi de 1959 qui permettaient aux denturistes de confectionner et d'adjuster des dentiers pour des patients qui avaient au préalable obtenu un certificat de bonne santé buccale. Le public, quand le gouvernement aura proclamé cette nouvelle loi, ne pourra se procurer des dentiers que sur ordonnance des dentistes! Les députés, avant d'approuver la nouvelle loi dentaire, y ont aussi apporté des amendements pour permettre aux techniciens de faire des "réparations mineures" aux dentiers et, ce, sans ordonnance des dentistes; le Collège des Chirurgiens-Dentistes a toutefois le privilège de définir ces "réparations mineures." Le troisième bill, qui aurait permis l'établissement d'une Société des Denturistes Publics de Saskatchewan, s'est embourbé à sa première lecture. L'adoption des deux premiers bills contrecarre les buts de celui des denturistes et enlève toute raison de le discuter en deuxième lecture. La décision prise par la Législature nous semble sage. Il fallait faire quelque chose après les lois qu'on avait adoptées l'an dernier, dans le domaine dentaire. Les denturistes pouvaient ainsi transiger directement avec le public sans aucun contrôle sur leur travail, si ce n'est les certificats de bonne santé buccale que les patients devaient obtenir avant leur traitement.

Les dentistes ont remporté une victoire qui leur donne, avec le système d'ordonnances, le contrôle de la prothèse. Leur argument que leur formation scientifique les prépare

à veiller exclusivement sur la santé buccale de la population a eu beaucoup d'influence sur la décision des législateurs. Le Parlement a aussi été influencé par la possibilité que, si les denturistes s'appropriaient une tranche importante des revenus de la prothèse dentaire, les dentistes fuiraient la province de Saskatchewan.

Les denturistes ont perdu leur cause. Mais la nouvelle loi ne les prive pas complètement de leur gagne-pain puisqu'elle leur permet de continuer leur travail, en faisant partie de l'Association des Techniciens.

Cette législation qui renforce les prérogatives des dentistes et qui établit une association de techniciens a une portée restrictive. Elle a pour but d'éliminer la concurrence. Les privilèges accordés par ces lois comportent des responsabilités et des obligations. Une de ces obligations est de ne pas profiter de ces privilèges pour exiger des honoraires exorbitants. Le public, si les dentistes respectent cette obligation, bénéficiera sans doute des lois que vient de sanctionner la législation.

Statistiques au sujet des dentistes canadiens

L'Association fournit chaque année, à peu

près à la même époque, des statistiques au sujet des dentistes qui exercent au Canada. Cette année, au bas du Tableau 3, le nombre des hygiénistes dentaires apparaît dans ces statistiques. C'est grâce à la collaboration des registraires des provinces que ces statistiques ont pu être amassées.

Remarques:

—Le Canada compte 27 dentistes de plus que l'année dernière, mais sa population a augmenté de 400,000 âmes en 1959.

—La proportion des dentistes en rapport avec le chiffre de la population s'établit à 1:3,018, comparativement à 1:2,963, l'année dernière.

—Terre-Neuve a un dentiste par 10,441 habitants, tandis que la Colombie britannique et l'Ontario ont un dentiste pour 2,404 et 2,403 personnes.

—Cette proportion s'améliore légèrement dans l'Île-du-Prince-Edouard, la Nouvelle-Ecosse et la Colombie britannique. La proportion de la province de Québec demeure la même, mais partout ailleurs, elle s'aggrave.

—Deux provinces n'ont pas d'hygiénistes dentaires. Les autres provinces ont un total de 71 hygiénistes dentaires en exercice.

TABLEAU 1
Dentistes exerçant au Canada

Nombre de dentistes				Modifications au cours de 1959				*Augmentation ou diminution comparativement à 1938	**Proportion en rapport avec la population
Province	Hommes	Femmes	Total	Décès	Re-traites	Additions	Déménagements		
T.-N.	42	1	43	1	1	3	1	+24	1/10,441
I.-P.-E.	35	0	35	1	2	2	0	+5	1/2,914
N.-E.	190	3	193	1	2	9	3	+24	1/3,710
N.-B.	113	1	114	3	1	3	2	+4	1/5,175
P. Qué.	1,375	9	1,384	14	12	62	15	+510	1/3,612
Ont.	2,429	48	2,477	30	29	110	20	+545	1/2,403
Man.	275	2	277	2	3	10	1	+26	1/3,195
Sask.	190	2	192	4	2	6	8	-18	1/4,698
Alta.	406	6	412	8	5	22	9	+176	1/3,017
C.-B.	641	12	653	11	5	33	4	+291	1/2,404
Total	5,696	84	5,780	75	62	260	63	+1,587	1/3,018

*Ces chiffres montrent l'augmentation ou la diminution en rapport avec ceux de 1938.

**Les chiffres de la population sont ceux publiés par l'Office National de la Statistique, le 1er juin 1958

TABLEAU 2
Migration des dentistes canadiens durant 1959

à de	T.-N.	I.-P.-E.	N.-E.	N.-B.	P. Qué.	Ont.	Man.	Sask.	Alta.	C.-B.	E.-U.	Angleterre	Australie	Europe	Autres	Total
T.-N.						1										1
I.-P.-E.																0
N.-E.										1	1				1	3
N.-B.	1				1											2
P. Qué.				2		5			3	3	1				1	15
Ont.			1		2		1		2	3	5	2	3	1		20
Man.										1						1
Sask.					1	1			4	1	1					8
Alta.							1	2		4	1				1	9
C.-B.									3						1	4
Total	1	0	1	2	4	7	2	2	12	13	9	2	3	1	4	63

TABLEAU 3
Nombre de spécialistes par provinces
(seuls les dentistes qui consacrent tout leur temps à l'exercice de leur spécialité)

	T.-N.	I.-P.-E.	N.-E.	N.-B.	P. Qué.	Ont.	Man.	Sask.	Alta.	C.-B.	Total
Orthodontie	0	0	3	1	23	56	4	2	7	10	106
Chirurgie buccale (exodontie)	0	0	2	0	6	33	5	0	5	7	58
Périodontie	0	0	0	0	3	13	0	0	1	3	20
Pédodontie	0	0	0	0	0	6	2	0	3	7	18
Total	0	0	5	1	32	108	11	2	16	27	202

Hygiénistes dentaires en exercice	0	3	5	2	5	42	1	10	0	3	71
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TABLEAU 4

Nombre de dentistes employés dans les services de santé

	T.-N.	I.-P.-E.	N.-E.	N.-B.	P. Qué	Ont.	Man.	Sask.	Alta.	C.-B.	Total
Facultés dentaires (Personnel enseignant)											
Plein-temps	0	0	4	0	14	17	6	0	5	0	42
Demi-temps	0	0	0	0	0	2	8	0	5	0	15
Service hospitalier											
Plein-temps	0	0	3	2	15	17	0	2	3	7	47
Demi-temps	0	0	0	0	18	5	0	0	0	2	25
Service scolaire											
Plein-temps	0	0	1	3	15	30	5	0	3	2	59
Demi-temps	0	0	2	2	5	57	2	1	5	1	75
Service d'Hygiène publique											
Plein-temps	2	2	2	2	11	11	3	1	3	30	67
Demi-temps	0	0	0	0	0	0	8	0	0	0	8
Total:											
Plein-temps	2	2	10	7	55	75	14	3	14	39	221
Demi-temps	0	0	2	2	23	64	18	1	10	3	123

TABLEAU No 5

Nombre de dentistes employés par le gouvernement fédéral Plein-temps	
Ministère des Affaires des Vétérans.....	37
Ministère de la Défense nationale	170
Ministère de la Santé nationale et du Bien-Etre social	18
Total	225

The Canadian Dental Association

Volume 26

Number 9

Toronto

September 1960

JOURNAL

The Determination of Relative Caries Experience

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Editor's Note:

Even though dental caries is the major disease treated by dentists, no fully adequate yardstick has been available to assess the relative caries experience of an individual patient. By analogy a patient's temperature determined by means of a thermometer is one important indication of the degree of infection present.

The following report describes a device that can be employed by every practitioner in dentistry to determine the relative caries experience of his patients.

INTRODUCTION

A more rational basis for prescribing the known caries preventive procedures to the individual patient is needed. The obvious clinical ideal would be a test(s) by which the dentist could accurately determine which patients were currently dental caries active and then be able to prescribe an effective interceptive procedure. Caries activity tests such as the Lactobacillus Count (Bunting et al, 1925; Rodriguez, 1930; Enright et al, 1932), the Colorimetric test of Snyder (1940), the enamel decalcification test of Fosdick et

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al (1937) have proven useful, particularly in caries investigations, but have practical limitations for the dental practitioner because of the laboratory procedures and the limited prediction value. The application of and research into these more rigorous caries activity tests are most valuable. However, even at present, assessment of caries activity and concomitant prescriptions for caries prevention may be written more accurately if based on the simple device described below.

The principle suggested for assessing caries activity is to compare the individual's caries experience, d.e.f., D.M.F. tooth count, to that of other individuals of the same age. On this basis, a patient is ranked according to four categories, rampant, high, low, or resistant, arbitrarily defined as follows. If more than half the population have fewer carious lesions than the patient, he is ranked with those of high caries experience, and alternatively, if he ranks among the half of the population with the least number of carious lesions, he may be said to have low caries experience. At the extremes, if less than ten per cent of the population have experienced as much or more decay than the patient, he may be said to have a very high caries activity (ranked in category of rampant), and if up to ninety per cent of the population have greater caries experience than the patient, he may be clearly stated to be resistant to caries.

SOURCE OF REFERENCE DATA REGARDING DISTRIBUTION OF DENTAL CARIES IN A POPULATION

Table I was compiled by combining three sets of unpublished dental caries survey data available for the City of Toronto (non-fluoride) as follows: the data for pre-school children, ages 1 to 5 years, were obtained from the records of the Riverdale Pre-School Preventive Dental Project (Compton et al, 1958); the data for elementary and secondary school ages were derived from the Dental

Services Division of the City of Toronto; the data for adults were available at the Faculty of Dentistry, University of Toronto, having been gathered co-incidental to the study of periodontal disease¹ in a group of Provincial civil servants residing in Toronto (Mehta et al, 1955). The data cannot be said to constitute a proper random sampling, except for the school ages, because both the pre-school and the adult data were obtained by examination of volunteers. Nevertheless, it is felt that the data are quite acceptable for the present use since the standards are completely arbitrary. In the body of Table I are given the cumulative relative frequency distributions for d.e.f. and D.M.F. tooth counts derived by clinical examination with mouth mirrors and explorers. The cut-off points for the susceptibility categories described above crudely represent the tenth, fiftieth, and ninetieth percentiles but these were of necessity modified to avoid the impossible clinical interpretation of fractional cavities. For convenience, the data of Table I have been presented in the form of a computer (Figures 1a, b, c) which can be easily used in the dental office or public health office.

PRACTICAL CONSIDERATIONS

The suggested procedure for use of the computer is as follows:

1. Rotate the movable scale until the age at the patient's last birthday is shown in the upper window.
2. Based on mouth mirror and explorer examination, add up the number of decayed, filled and extracted primary or permanent teeth for the patient to give a total score for the deciduous teeth (d.e.f.) and/or a total score for the permanent teeth (D.M.F.).
3. Locate the patient's d.e.f. or D.M.F. score in one of the lower windows and read the caries rating in the opposite slot. E.g., if at age eleven years the permanent tooth count for a patient is 6, this value falls in the range 5-7, and the child would

TABLE 1
RELATIVE CUMULATIVE DISTRIBUTION OF DEF AND DMF TOOTH COUNTS IN AN URBAN POPULATION USING NON-FLUORIDATED WATER
(Percentage of Persons at Specified Age with Stated Number of Caries Affected Teeth or More)

Number of Decayed, Restored or Prematurely Lost Teeth	Primary Teeth (def)										Permanent Teeth (DMF)									
	Age in Years Last Birthday																			
	1	2	3	4	5	7	9	9	11	13	15	17	20-24	25-29	30-34	35-39	40-44	45-49	50-54	
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.1	99.8	100.0	99.7	100.0	99.7	99.7	100.1	99.8	99.8	99.8	
1	1.3	17.7	50.7	72.8	75.9	89.6	84.7	3.7	42.5	77.3	88.6	88.8	95.3	96.6	99.7	98.5	98.9	98.9	98.5	
2	1.3	11.7	40.4	61.0	69.9	84.4	80.3	2.3	32.9	68.3	82.0	83.5	92.0	94.8	98.5	98.5	98.9	98.5	98.5	
3		4.9	30.5	49.4	59.3	78.4	71.7	1.0	17.6	49.7	70.2	76.5	89.1	91.7	100.0	98.4	98.4	98.4	98.4	
4		3.1	21.1	41.2	48.2	70.7	64.9	0.7	10.7	37.0	58.7	72.1	85.3	88.6	98.4	98.4	98.4	98.4	99.7	
5		2.2	13.3	28.4	37.6	61.6	54.9		0.4	6.2	28.0	57.6	78.8	85.2	97.6	99.8	99.8	99.8	99.7	
6		2.0	8.7	20.7	24.5	51.6	44.9	0.2		3.4	18.2	45.6	70.1	83.4	97.6	99.8	99.8	99.8	99.7	
7		0.7	5.3	14.4	17.0	38.0	33.1		1.2	9.5	28.9	53.2	71.7	92.1	96.1	95.3	98.5	98.5	99.7	
8		0.2	2.6	10.3	11.0	27.6	24.2		0.4	5.6	21.5	44.2	62.8	89.7	95.8	95.8	95.8	95.8	99.7	
9		0.2	1.6	3.1	4.5	11.3	11.1		0.3	4.1	16.4	34.7	56.6	88.9	94.2	93.7	94.1	94.1	99.7	
10		0.2	0.8	2.1	2.0	7.4	6.9		0.2	2.4	11.8	27.7	51.1	86.5	92.6	92.5	92.5	92.5	99.7	
11		0.2		0.9	1.5	4.5	4.3			1.5	8.5	22.9	42.5	82.5	86.2	90.1	92.9	95.9	92.9	
12		0.2		0.7	1.0	3.3	2.7			1.3	6.3	16.4	34.5	77.8	83.0	85.2	90.5	90.6	89.5	
13		0.2		0.2		2.1	1.1			1.0	4.8	12.4	28.9	69.9	79.8	80.3	88.1	83.9	86.1	
14				0.2		1.7	0.9			0.8	3.5	9.8	21.8	65.9	78.2	76.7	83.4	82.6	84.4	
15						1.0	0.5			0.6	2.2	6.9	16.9	57.2	71.0	67.0	79.8	79.9	79.3	
16						0.5	0.4			1.1	5.1	12.0	52.5	64.6	63.4	75.1	78.6	77.6	92.1	
17						0.3	0.3			0.1	0.8	4.3	8.9	49.3	59.8	58.5	73.9	71.9	74.2	
18						0.1	0.1			0.6	3.3	6.1	43.0	53.4	54.9	68.0	65.2	64.0	84.5	
19						0.1				0.1	1.9	3.9	35.9	48.6	46.4	63.3	59.9	60.6	78.8	
20						0.1				0.1	1.0	2.7	29.6	39.8	40.3	53.8	54.6	50.4	73.1	
21										0.5	1.5	2.5	36.6	39.1	45.5	49.3	43.6	69.3		
22										0.4	0.9	17.8	30.2	33.0	41.9	45.3	41.9	59.7		
23										0.4	0.9	12.3	23.0	23.0	36.0	38.6	40.2	54.0		
24										...	...	10.7	19.0	19.7	25.3	34.6	33.4	52.1		
25										0.3	...	9.1	16.6	...	21.7	27.9	23.2	50.2		
26										...	...	4.4	11.8	11.2	17.0	21.2	21.5	40.6		
27										0.3	...	3.6	7.8	7.6	14.6	18.5	...	33.0		
28										...	...	2.8	6.2	6.4	9.9	...	...	19.8	27.3	
29										...	...	...	5.4	...	...	...	...	13.2	23.5	
30										...	...	...	...	...	...	...	...	...	18.1	
31										...	...	...	...	...	...	...	...	...	16.4	
32										...	...	...	...	...	...	...	...	...	21.6	

Caries Rating from Clinical Examination.

Rampant caries — Patient is among the 10 percent of age group with the most decay.

High caries — Patient is among the 50 percent of the age group with the most decay but not in rampant class.

Moderate caries — Patient is among the 50 percent of age group with the least decay but not in the resistant class.

Resistant caries — Patient is among the 10 percent of age group with the least decay.

Immune — Patient still has no clinical sign of tooth decay.

Caries Rating from Clinical Examination.

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Resistant caries — Patient is among the 10 percent of the age group with the least decay.

Immune — Patient still has no clinical sign of tooth decay.

Survey Source: Ages 1 to 17, City of Toronto, Dept. of Health Reports 1958. Ages 20 to 54, Ontario civil servants, Mehta et al 1955.

DENTAL CARIES RATING COMPUTER

DIAL

IN 7 YRS

PATIENT'S AGE

TOTAL

THE PATIENT'S CARIES-AFFECTED TEETH

	PRIMARY	OR	SECONDARY
DECAYED	...		...
EXTRACTED	...		...
FILLED	...		...
TOTAL	def		DMF

READ

CARIES RATING

OPPOSITE WINDOW

WHERE def OR DMF TOTAL APPEARS

def

DMF

10+

7 to 9

1 to 6

0

RAMPANT

percentiles 90-100

HIGH

percentiles 50-89

LOW

percentiles 10-49

RESISTANT

percentiles 0-9

5+

1 to 4

0

0

Prepared by The Division of Dental Research, Faculty of Dentistry, University of Toronto, Canada.

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FIGURE 1a (Front View)
Dental Caries Rating Computer developed to simplify the use of information in Table 1 in the dental office or public health field.

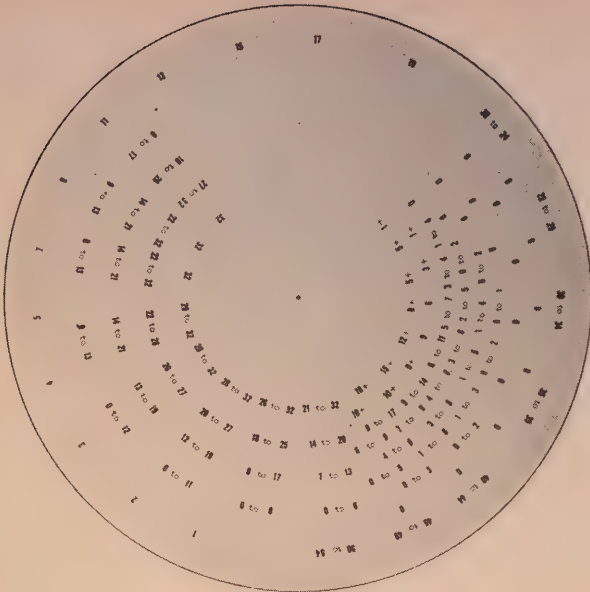


FIGURE 1b
Front view of revolving disc

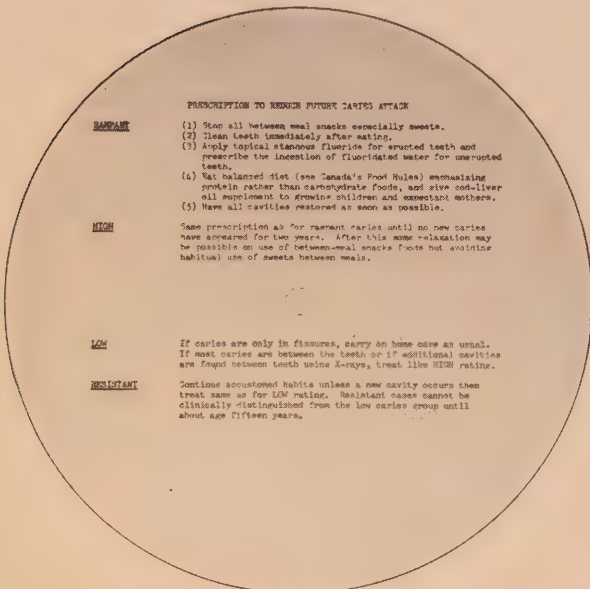


FIGURE 1c
Information on back of computer

be rated as highly susceptible. For ages 5, 7, and 9 years, both the primary and permanent tooth figures are given. Because there is not a perfect correlation between primary and permanent tooth caries activity, the rating at these ages may be slightly different depending on which dentition is examined. A truer rating will be obtained by examining both dentitions and interpolating between the two results.

4. If the carious lesions are predominantly in the fissures of the teeth, the estimate of local bacterio-chemical attack may need to be down-graded since morphology determines the susceptibility of these surfaces to a considerable degree (Reid and Grainger, 1955). Conversely, if almost all the carious lesions present are on smooth surfaces, the estimate of environmental attack might be adjusted upward.

5. For missing ages such as 6 years, the values for ages 5 and 7 may be interpolated.

6. If the computer is used in a community differing greatly in caries susceptibility from Toronto, the rating should be modified to take this difference into consideration. For example, at age 9 years, a deciduous tooth score (d.e.f.) of 9 might be interpreted as rampant for a person who has benefited from ingestion of fluoridated water.

7. The prescription for caries prevention should be appropriate for the caries experience rating of the individual and, where available, for the current caries history. A suggested prescription scheme is printed on the back of the computer, see figure 1c. The summation of the established caries preventive procedures will guide the practitioner prescribing for his individual patients.

With reference first to the local bacteria-chemical attack in the case of acute rampant caries, Fosdick (1950) has demonstrated the protective value of brushing the teeth immediately after eating to remove the fermentable carbohydrate substrate as quickly as possible. It is also clear from the Vipeholm Study

(Gustafsson, 1954) that caries increases in direct relation to the use of sticky sweet foods between meals; hence these should be completely avoided by the person with rampant caries. Topical applications of a solution containing 8 per cent stannous fluoride have been shown to effectively reduce dental caries increment (Gish et al, 1958; Muhler, 1960) and the accumulating evidence suggests that stannous fluoride in a dentifrice is also of real value either used alone or in conjunction with topical stannous fluorides (Jordan and Peterson, 1959; Muhler, 1959).

On a longer term basis, for young individuals whose permanent teeth are not as yet fully developed and erupted, the use of fluoridated water, either from a community water supply (Facts of Fluoridation, 1957) or by prescription on an individual basis (Council on Dental Therapeutics, 1958), will increase the caries resistance of the teeth over the individual's life time. Lastly, animal studies show clearly that the nutrition at the time of tooth development influences the size, shape, quality, and caries susceptibility of teeth (Paynter and Grainger, 1956; Sobel and Hanok, 1953); hence there is no doubt that a balanced diet with Vitamin D supplement (see Canada's Food Rules) for the growing child and also for the expectant mother will improve the resistance of the teeth against caries.

As has been implied above, perhaps the greatest use of the computer is for patient education. For example, a parent bringing a child age 11 to the dental office with 9 D.M.F. teeth may be completely unaware that this is an exceptionally high caries attack rate for a child of that age. If this fact is shown to the parent in terms of the computer, it is felt that the parent will have a much better concept of the seriousness of the present clinical situation and the implications regarding the child's future dental health if preventive measures are not seriously adopted. On the other hand, an overly concerned

patient may be greatly reassured if shown that his dental attack rate is quite low compared to the rest of the population. There are other dental practice situations where it is helpful to be able to demonstrate objectively the patient's caries susceptibility. For example, the computer permits the practitioner to decide when the caries susceptibility is so great as to counter-indicate orthodontic treatment, or to influence the type of orthodontic treatment.

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¹ Edentulous individuals were not received in this study of periodontal disease and slight modification of the adult distributions were made in Table 1 using the estimated numbers of persons with full dentures as given by the Report on Dental needs According to Age and Sex from the Bureau of Economic Research of the American Dental Association, Feb. 1953.

"With health, everything is a source of pleasure; without it, nothing else, whatever it may be, is enjoyable. It follows that the greatest of follies is to sacrifice health for any other kind of happiness, whatever it may be — for gain, advancement, learning, or fame, let alone, then, for fleeting sensual pleasures.

— Schopenhauer.

Sound Clinical Procedures For Amalgam Restorations

E. R. AMBROSE, D.D.S.,* *Montreal, P.Q.*

INTRODUCTION

Despite the variety of materials and techniques that we have at our command today, the amalgam alloy is the most economical material to use in restoring the loss of intra-coronal tooth structure in posterior teeth. For the present, there does not seem to be a comparable material to dislodge it from this key position.* When one considers the extreme tests that we place on this versatile alloy in all age-groups, the public and the profession enjoy a good measure of service from it, and at a reasonable fee level.

This article is presented with the hope that the information contained therein may help to raise the standard of excellence that the average amalgam enjoys. By so doing, we can prolong its term of usefulness to our patients.

A REVIEW OF SOME CAVITY PREPARATION PRINCIPLES

Preparing the remaining sound tooth structure to receive a restoration is much like the foundation that one prepares for a home. There is not much sense to building a beautiful house on a poor foundation or vice versa. The systematic approach to cavity preparation established by Dr. G. V. Black (1899), has had very little modification in principle since its introduction to the dental profession.

Changes have, however, occurred in the last ten years in the field of restorative dentistry. For the most part, these have been due to research and experimentation in the removal of hard tooth structure and changes in dental materials.

The mechanical principles relating tooth structure to restorative materials have had some minor changes but in the main they have withstood the test of time and remain unaltered.

If we can not logically explain our failures in amalgam work, and avoid them, the everyday variety of problems to be treated with amalgam alloys can become frustrating, resulting in a negative attitude toward this material, and the excellent results possible with it.

Outline Form

Probably no one single step is as important as this initial consideration, with the exception of the complete removal of carious tooth structure. Much of the resistance and retention form is produced by this initial cavity design.

Unfortunately, the undermined and missing enamel portions in badly decayed teeth, dictate to us in good measure the final marginal or cavo surface outline. But where we have regular patient visits, semi-annually, or more frequently, and we can practice preventative measures, we are in a position to design cavity preparations that will place the amalgam alloy in its most advantageous relationship to the remaining tooth structure!

These fundamentals should be observed—

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FIGURE 1.

Correct width and depth of cavity preparation are essential.

- a) Removal of all carious or pre-carious pits and fissures on the occlusal surfaces and undermined ledges of enamel.
- b) Absolute minimal cutting between the intact heavy cuspal inclines.
- c) Maintenance of strong marginal ridge areas by approaching no closer than necessary with the outline form, and preservation of dentine underlying the ridge area by proper angulation of our cutting instruments.
- d) Any discussion of outline form would not be complete without taking into consideration the correct depth of cavity preparation. Our pulpal and axial walls should be located in dentine about $\frac{1}{2}$ -1 mm. pulpal to the DE junction. Fig. 1.

Dental students in the process of orientating themselves in tooth structure present some interesting problems. Invariably, it is the tendency to use burs that are too large in diameter, leaving the base of the preparations located in enamel and not in dentine. The occlusal preparations appear to have enough bulk in these cases but place the occlusal cavo surface outline in a poorer relationship to the points of contact with the opposing teeth. The further we locate the finished cavo surface from these points of contact, the longer the restorations will withstand the forces of mastication and exhibit minimal flow at the margins.

Another danger that exists when we do not penetrate beyond the DE junction is the increased possibility of not exposing carious areas in the dentine, pulpal to the DEJ. Metallic restorations located just at the dento-enamel junction can cause sensitivity. The same preparation cut a little deeper to place the base of the metallic restoration well into the dentine will usually not exhibit this sensitivity.

Each cut we make in a tooth tends to weaken it somewhat when the restorative material we intend to use depends on the tooth structure to support it. Therefore, the narrower we cut our preparation the stronger the cusps remain and tend to effectively resist the increased tendency to fracture, by the very fact that we have increased our cusp height by the distance our bur enters the tooth. The more tooth structure we can save between the buccal or lingual walls of our cavity preparation and the buccal or lingual surfaces of the tooth, the more ideal the situation becomes.

A critical area in outline form is the occlusal opening of the proximal box. Ideally, it should be just enough to clear the contact with the adjacent proximal surface in the marginal ridge area. By so doing, we preserve the marginal ridge areas, buccal and lingual to the outline of the box portion.

As the proximal walls progress gingivally they should diverge slightly as the angles between the buccal and lingual walls and the gingival seat are extended in the embrasures to a better self-cleansing area. The box form, i.e. the buccal and lingual walls meeting the proximal cavo surface at approximately 90° , must be maintained regardless of how extreme the buccal-lingual extension becomes. Fig. 2.

The ideal box form is rarely met due to the varieties of contacts, contact areas and the extent of the caries and decalcification process. When the opening to the proximal box is wide we essentially end up with a plain box form with no converging



FIGURE 2.

Molar on the left with ideal box form. Molar on the right with buccal wall extended to clear a wide contact.

of the buccal and lingual walls from the gingival seat to the occlusal surface.

The variation in occlusal outline to accommodate the wider proximal opening and preserve any sound cusp inclines adjacent to the area is referred to as a "reverse curve".

This permits the extension of the buccal and lingual walls, and maintains the right angle that the wall makes with the proximal surface, without overcutting the occlusal outline. The uncut model in Fig. 3 indicates possible areas of contact with opposing cusp planes and further emphasizes other solid enamel areas we attempt to preserve. It logically follows then, that a little thought when designing our outline form would contribute considerably to a successful restoration. The resultant protection the restoration will receive by scientific removal of sound tooth structure is bound to affect favourably its life span.

Resistance and Retention Forms

Plain walls meeting at definite angles and the rounding of the junction between



FIGURE 3.

Intact model indicating areas of the occlusal surface that should be preserved. Lower left model indicates the use of the "reverse curve" and the preservation of sound tooth structure.

the pulpal and the axial walls, i.e. the step or pulpal-axial line angle, provides good resistance form. The buccal and lingual walls of the occlusal portion of the preparation should be at right-angles to a line through the cusp heights.

a) Positive retention is obtained by dovetails formed on occlusal outline by the original proper extension.

b) Proximal box outline.

c) The further accentuation of the line angles formed by the buccal, lingual and gingival walls, where they meet the axial. These angles can be easily started with a 699 or 700 bur at a reasonable speed especially on the bucco-axial and linguo-axial and then finished with Woodbury angle formers, or Ferrier gingival-marginal trimmers.

The retentive angle formed at the gingival-axial line angle is termed a "reverse-bevel."

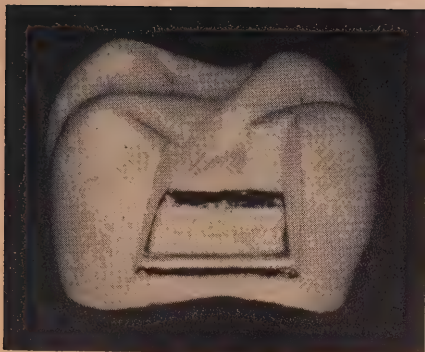


FIGURE 4.

A model showing the accentuated line angles within the box that provide some positive retention to the proximal portion of the alloy.



FIGURE 5.

Radiographic evidence of the positive retention made possible by a reverse bevel in a preparation and the protection afforded marginal ridge areas by correct bur angulation.

Figure 5 is a photograph of an X-Ray showing the retention possible in the bicuspid region by reverse bevelling. This photograph also indicates clearly the preferred oblique angle the preparation should contain at the remaining marginal ridge areas, for their protection.

One form of retention seldom mentioned is the ability of a well condensed amalgam to adapt to the irregularities left in the walls of cavity preparation from instrumentation. This coupled with the ideal slight expansion of a well triturated and non-moisture contaminated alloy add materially to the retentive features.

Amalgam bulk has been referred to time and again as a necessary requirement in cavity preparation. A cavity preparation incorporating the above principles will have adequate bulk, well orientated within sound tooth structure, to resist all stresses brought to bear on the alloy, or more correctly on the remaining tooth structure housing the alloy. If cusp reduction is necessary, then bulk of amalgam is indicated because of lack of support. The preceding phases of cavity preparation have been carried out at ideal depth. With the cutting tools at our dis-

posal today, this tooth structure has been removed effectively and efficiently.

From this point on the complete exclusion of moisture, increased visibility and retraction of soft tissues are indicated. This can be carried out most efficiently by a well applied rubber dam, isolating a complete quadrant. Fig. 6.



FIGURE 6.

Isolation of a quadrant of the mouth by the rubber dam.

Caries Removal

By the preceding systematic approach, much or all of the carious dentine has been removed, especially in the incipient type of inter-proximal caries. Complete caries removal must be carried out if permanent restorations are to be inserted at this time.

Toilet of cavity preparations and planing of enamel walls

The effective sterilization of cavity preparations is filled with controversy and conjecture. For the academic year 1959-1960, the Operative Department in the McGill Dental Clinic at the Montreal General Hospital has used the following toilet for cavity preparations:

Apply Gly-oxide (I.P.C.) for one minute to the completed cavity preparation. This is then followed by Dakin's solution and the preparation thoroughly dried out with cotton and air.

This procedure acts in part as a

- (1) disclosing solution
- (2) removes all blood products
- (3) thoroughly cleanses the tooth structure

We have had no increase in sensitivity, or other complications with the above technique in approximately 1,500 teeth that have received this treatment prior to receiving a restoration.

Planing of enamel walls and production of a smooth gently curving cavo surface-angle, free from short bevels and providing as near a right-angle as possible where amalgam meets tooth structure is important. Further accentuation of retentive angles is often carried out at this stage, by the use of sharp hand instruments.

Matrix Band applications

The essentials of a good matrix band application are

- (a) rigidity

- (b) must supply lost contour and contact the approximating tooth

- (c) tight gingival adaptation

- (d) the occlusal height of the matrix band at the marginal ridge area should be such that it will allow sufficient over-packing of the amalgam, yet not hinder instrumentation.

- (e) ease of removal—of minimal importance

Successful matrix band applications, restoring lost contour and contact can be obtained if we use the various types of retainers where they are best suited.

We have square, ovoid and tapering contours to deal with on proximal surfaces. These basic shapes are further complicated by a variety of contact relationships and soft tissue levels in the young and the adult dentition. No one mechanical matrix retainer can satisfy adequately the many situations that present themselves in daily practice.

The simple MO or DO cavity preparations for incipient caries is easily handled by the Ivory #1 matrix band and retainer, or an individual matrix application. When three or more surfaces are involved in a preparation, the contra-angled Tofflemire full round mechanical matrix retainer is usually the one choice. Fig. 7.



FIGURE 7.

Individual matrix being applied to the M and D of the 2nd molar and a Tofflemire retainer applied to the 2nd bicuspid.

This type of retainer is also indicated for deciduous and partially erupted permanent teeth in the majority of cases. The narrow Steele's matrix retainer or individually soldered bands work well in many operators' hands, for these problems also.

In all cases, some attention must be given to preparing the proximal surface of the matrix in order that proper contour will be restored and contact assured. The ovoid type of tooth is the most critical in this regard. Contouring pliers, burnishing the matrix material with a large burnisher on folded towel, and working the matrix band with a suitable instrument toward the contacting proximal surface when the matrix is placed in position on the prepared tooth, will all aid in providing normal tooth form and contact. Fig. 8.

Without exception, some form of gingival wedging is necessary. The purpose of a wedge is to ensure the adaptation of the matrix to the gingival wall of the cavity during condensation. A well-placed triangular wooden wedge, (Getz Wizard wedges), so trimmed that it does not interfere with the contour of the band or the contact area is the ideal. This should be inserted from the largest

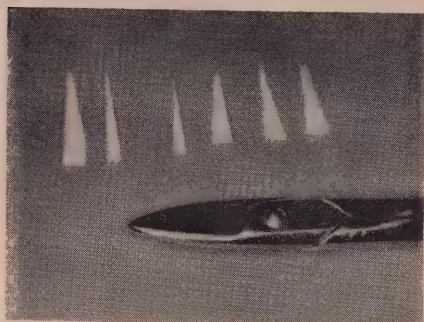


FIGURE 9.

Properly cut and trimmed wedges are essential.

embrasure and in most cases it will be from the lingual of the posterior teeth. A wedge should be pressed to place with reasonable force, and retained with a bit of compound if necessary. This will ensure its position during condensation and afford some slight mechanical separation to the teeth, which contributes to the establishing of a sound contact point or area. When the inter-proximal areas are narrow and firm tissues exist, an ordinary flat tooth pick will often be the most convenient wedge to introduce from the buccal or lingual embrasure. Fig. 9.

A slight concavity in the cavo surface of the gingival floor can be handled by burnishing the band to place and then inserting a wedge with a bit of compound on it to fill the depression and maintain the established contour. Where the ideal extension bucco-lingually exists at the occlusal opening to the proximal box, a well contoured and wedged matrix is usually all that is required when using a mechanical retainer. But when the carious process is such that the bucco-lingual extension in the marginal ridge area is extensive, some form of additional support is essential. Otherwise, sufficient condensation of the alloy in this critical area will be impossible and will result in fracture of the marginal ridge of the restoration upon removal of the matrix



FIGURE 8.

Preparing the Ivory No. 1 retainer and matrix band to restore the contact on an ovoid tooth with a wide box preparation.



FIGURE 10.

The fabrication of a simple support for any matrix application, by means of a paper clip and compound.

or resulting masticatory stress. This reasoning also applies in areas where considerable portions of the cusps are being restored. The matrix must not yield when we are attempting to unite each increment of the amalgam into one solid mass.

Preparation of two or three sizes of staples from #1 Canada paper clips with attached compound and kept handy will encourage the use of additional support when necessary. Fig. 10.

With these staples in place as a base, a little more compound can be added easily and a rigid, non-bulky, non-yielding matrix application is the result.

They can be easily removed with a hand instrument from the buccal or lingual surface when the restoration has been completed and the carving and contouring has been carried out.

In the case of the Ivory #1 retainer, once a band has been contoured, wedged, and contact assured, and the compound support applied as described above, the retainer can be removed. This leaves us with an individual matrix application,

which many times would be easier and simpler to apply as such, right from the beginning. Fig. 8.

This is especially true where an MOD has been prepared with one or both contacts difficult to restore. An individual matrix contoured for each proximal wedged to place and compounded will often give better results than any mechanical retainer. Fig. 11.

The essential parts of any applied matrix band are the band material, a wedge, and compound.

A mechanical retainer is a simple aid when placing the matrix and affords it some stability, helping to retain it in position in most cases.

The very nature of having to tighten a retainer to place is often its very downfall, for it tends to pull the band away from the contact we are trying to establish, even though most retainers allow for a larger occlusal diameter than at the cervical by the shape of the matrix band used or the design of the retainer. This situation can be corrected by again



FIGURE 11.

The completed application of an individual matrix to the M and D of the second molar. Note that the staple does not interfere with instrumentation.

wedging properly, loosening the retainer, working the band towards the respective contact and then supporting this now fairly loose matrix in the occlusal area with compound. An even simpler solution to this situation when dealing with MOD's on molar teeth, is to consider the MO and DO as separate restorations, rather than as an MOD in one sitting. By so doing, we can deal with one contact at a time and often end up with a much better result than attempting to condense the MOD and restore two extreme contacts at the same time.

The use of the Tofflemire or Steele's type of retainer for simple Class II cavities in normal arch relationships is not necessary. We are introducing an extra thickness of matrix band material between the teeth and complicating the removal of the matrix when the restoration has been inserted. The difference in levels of inter-proximal tissue between the involved proximal surface and the intact side presents a problem in attempting to adapt the full round retainer and matrix where it is not indicated. Tissue laceration often occurs on the intact side. These lacerations will heal but can be avoided!

Selection of alloy and condensation

There are many A.D.A. certified alloys on the market. Slight variations in the various components, annealing methods, and in the fineness of the cut will alter the properties, working time and resultant restorations. Any certified alloy will give good results if handled according to the manufacturer's directions.

Uniformity in trituration can be obtained by the use of a mechanical triturator and is a help and convenience. A recently developed instrument, the Presto-Amalgamator simplifies the trituration stage even further and shows great promise. Frequent mixes during the build-up of large restorations is better than attempting too large a mix and running the danger of inserting crystallized alloy

along the cavo surface and marginal ridge areas. Partially crystallized alloy can not be condensed satisfactorily nor adequate mercury expressed. There is no problem when adding freshly prepared alloy to what has been condensed into a preparation. But you cannot get the same results with partially set alloy. This is one reason for some of the fractured marginal ridges we encounter upon matrix removal.

Mechanical condensers (Electro-Mallet) are a help especially where large areas of amalgam must be condensed. But hand pressure is essential in boxes etc. at the beginning of condensation working from small to larger hand condensers. Directing the force toward the angles and the wall produces the best adaptation of alloy to cavity preparations. The insertion of a small amount of alloy initially into the box portions and carefully stepping the condenser point is essential if a well sealed proximal occlusal amalgam is desired. If the alloy has not reached the cavo surface of the gingival wall or the bucco-lingual and linguo-lingual angles with the first insertion of alloy, the portions of alloy to follow will not rectify this error.

The successful condensation of any alloy can be carried out as long as we have a rigid matrix well adapted to an adequate cavity preparation in a dry field. Sufficient marginal over-packing should be carried out in order that as much mercury as possible will be removed from the restoration. The over-pack rubber points, used with automatic condensers, are a help in this regard.

Carving and Contouring the Restoration

Restoring the lost tooth form and anatomy by the adequate carving of a well condensed amalgam is a logical sequence to follow. Many operators, for some unknown reason, do not spend enough time on this important step.

By reproducing the cusp inclines, mar-

ginal ridge areas, grooves, fossae, and embrasures, we are giving the finished amalgam restoration its best chance to resist the forces placed upon it. The force required to masticate certain foods will be a lot less if proper cutting and escape surfaces are provided in our restorations, rather than blocks of alloy sitting in the teeth. Early breakdown of the amalgam or remaining tooth structure and food impaction in the embrasures is the common outcome of poorly carved and contoured restorations. Before attempting removal of the matrix, the carving and contouring should be carried out to its completion. By this time, the alloy is well set and the matrix can be removed with safety, preferably to the buccal or lingual without any danger of fracturing the marginal ridge areas or losing the contact we have established. These ideal results are possible if the amalgam has been well condensed and the matrix has been allowed to remain long enough.

Some attention should be given to the opposing arch when carving amalgams. Any cusps that tend to drive into the area being restored, should be reduced and reshaped rather than cutting into the amalgam restorations to accommodate them. This is especially true in the marginal ridge areas where plunger cusps often exist and should be reduced to avoid fracturing the amalgam and further food impaction.

Burnishing fresh amalgam restorations with blunt instruments to remove excess is contra-indicated. This leaves us with mercury rich alloy at the cavo surface angle and contributes to early flow and pitting. Sharp instruments are the best and require little or no pressure when used properly. They should be used parallel with the margins or from tooth structure toward alloy and carving can commence almost immediately when using fine cut alloys.

There are many instruments and methods to produce well carved amalgams, but I think a few general comments on this procedure are indicated.

(1) Outline the curve of the marginal ridge area against the matrix band first, using an explorer. This begins the formation of the occlusal embrasure toward the contact and indicates where the crest of the marginal ridge is to be located. Observation of well formed teeth will point out the location of marginal ridge height well within the confines of the occlusal surface, sloping away to the contact area on the one side and a fossa on the other. The marginal ridges produced in amalgam should be so located and kept well rounded and bulky.

(2) Mark out the location and general depth of the C.D.L.

(3) Follow all existing grooves in the remaining tooth structure into the amalgam working from the buccal to the C.D.L. and from the lingual to the C.D.L. By following this procedure we can quickly block out the cuspal inclines and at the same time remove all excess amalgam from the grooves, where it is often overlooked.

(4) The cuspal inclines can now be refined, using carving instruments with adequate blade length. The matrix is left in place throughout the major portion of the carving procedure but it can be loosened from the buccal and lingual and the wedge removed. The marginal ridge area, buccal and lingual walls can then be contoured more readily. But it should not be removed until the amalgam is well set, and the carving procedure practically completed.

Matrix removal need not be a problem if the preceding steps have been carefully executed. As previously stated, the matrix should be removed in a buccal or lingual direction. Slightly moistening the area helps a little. Where the matrix must be removed occlusally pressure with a cotton pellet against the ridge is advocated by some operators, to minimize the danger of fracture. I feel, however, if the alloy is well condensed in a non-yielding matrix and sufficient time has elapsed to ensure a good initial set, there will be no

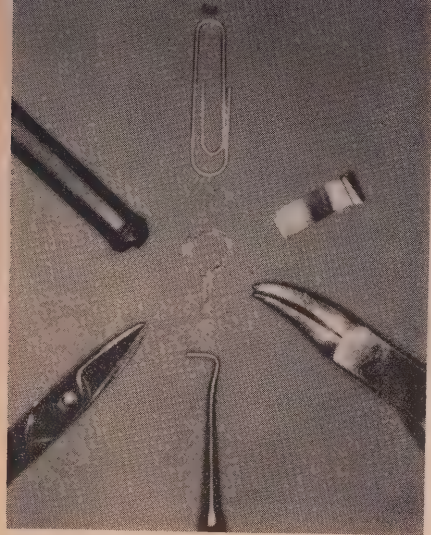


FIGURE 12.

The tooth in question and a sensible technique.

marginal ridge fracture, regardless of the direction in which the matrix is removed.

Upon removal of the matrix, the gingival margins should be checked for excess by explorer, U-15 etc. and dental floss. I have no hesitation in passing floss through an adequate contact area once in a gingival direction to smooth both off the proximal surface of the amalgam, gingival to the contact area, and make sure that all excess has been removed in the proximal space. If the matrix has been properly wedged, no excess will be apparent in the majority of cases, but the passing of floss over the surface ensures a smooth contour and a non-detectable finish line. A satin finish can be obtained on the remainder of the amalgam, by rubbing it with a wet cotton pellet before it is too well set.

When the form of isolation used has been removed and the area thoroughly irrigated, the patient can close gently on articulating paper to check the manner in which the new restoration adapts itself to the existing occlusal pattern. Where many compound restorations have been completed in all quadrants, centric rela-

tion should be observed and adjusted for maximum simultaneous contact at the completion of the restorative work.

Finishing Procedures

A well carved amalgam should require a minimum of finishing procedures.

(a) Small plug finishing burs or round burs to accentuate and polish the grooves.

(b) Fine wet or dry discs for the marginal ridge area and the buccal and lingual margins.

(c) A pencil-shaped carborundum stone for any excess along the occlusal cavo surface.

A final lustre can be obtained by using damp pumice on a pointed prophylactic brush followed by tin oxide and alcohol on a brush or a rubber cup used in a dabbing action on the amalgam to avoid over-heating.

SUMMARY

Figure 12 seems to sum up the situation quite nicely.

- (1) The tooth in question
- (2) A simple armamentarium
- (3) A definite technique based on fact when restoring lost tooth structure.
- (4) A bio-mechanical outlook on cavity preparation
- (5) Amalgam restorations when conscientiously inserted, are still one of the best investments we can make in our patients' oral health.

ACKNOWLEDGEMENT

The author wishes to express his appreciation for the Gly-Oxide supplied by the International Pharmaceutical Corporation and for the Presto-Amalgamator and alloy supplied by Robert McShirley, of McShirley Products, Glendale, California, U.S.A.

McGill University

The Management of Disorders of the Temporomandibular Joint

LASZLO SCHWARTZ, D.D.S., New York, N.Y.

The subject of temporomandibular joint disorders has received much attention in the dental literature during the past twenty-five years. During this time, however, there have been changes in concept and in methods of treatment. For example, if we were discussing the management of the disorders of the temporomandibular joint twenty years ago, we could dispense with the entire discussion with the use of the phrase: "Open the bite."

COSTEN'S SYNDROME

"This method of treatment was based on the hypothesis of Costen⁽¹⁾, an otolaryngologist. In 1934, on the basis of 11 cases, he described a syndrome, consisting of ear symptoms, such as deafness, dizziness, and ringing in the ears, together with sinus-like pains. Costen explained these symptoms on the basis of bite closure due to the loss of posterior teeth. He held that with bite closure the condylar head could be displaced distally causing pressure on the auriculo-temporal nerve; medially causing pressure on the chorda tympani; superiorly eroding the tympanic bone and irritating the dura of the brain. He also stated that distal displacement caused a bunching up of the tissue about the opening of the Eustachian tube, causing deafness. In time Costen added other

symptoms, such as burning tongue and trismus. He did not, however, alter his concept of the basic mechanism.

Anatomists soon studied the problem and found that the structures described by Costen could not be reached by the condylar head. Some clinicians warned of the dangers of bite raising but it won wide popularity, nevertheless. However, with greater knowledge of the importance of the resting or free-way space and with evidence of the damage frequently following bite opening, the practice waned. The concept remained, however, with its reliance upon altering occlusion. The methods of treatment changed. In place of vertical dimension there was substituted centric relation. Patients suspected of presenting the symptoms described by Costen were no longer treated with bite opening, but by the elimination of premature contacts, through either selective grinding, restoration, or orthodontic treatment. While the methods of treatment changed in detail, basically they remained the same, in that reliance was placed almost entirely upon correction of supposed malocclusion. Actually, Costen's syndrome was not concerned with disorders of the temporomandibular joint but rather with symptoms associated with what he considered to be joint dysfunction.

"HYPERMOBILITY"

In 1937, however, a method of treatment was introduced which focused upon the joint proper. In this year Schultz⁽²⁾, an oral surgeon, introduced the use of a sclerosing agent for inter-articular injections. This treatment was advocated for what he called subluxation, which he conceived to be a partial, incomplete, or self-reducing dislocation. In time, the treatment was utilized for other symptoms, such as pain and clicking. The rationale was that these symptoms were due to "hypermobility" of the condylar head. It was felt that this was due to looseness of the ligaments supporting the joint and that the sclerosing solution, by creating a scar tissue, would tighten the loose ligaments and restore limited and more normal function.

Thus, if we were considering our subject ten years ago, in addition to opening the bite, we may have added the phrase, "Inject the joint." But do these methods stand up in 1958? I do not think so, and I should like to give you my reasons.

CLINICAL INVESTIGATIONS

About nine years ago, when we began our research, we had serious doubts, on the basis of work done by earlier investigators, both clinical and in basic science, as to the validity of both Costen's and Schultz's concepts. Moss has already pointed out the functional parts of the joint, and that functionally the fossa is not part of the joint. He has also pointed out that the joint is a freely-movable joint, under the control, except for extreme movements, of the masticatory musculature. Hence, Costen's and Schultz's therapy were based on two misconceptions.

1. That the fossa can be subjected to abnormal pressures.

2. That a movement of the condylar head forward of the articular eminence is abnormal.

Ten years ago, because of misgivings

regarding the basis for current methods of treatment, we decided to start our research with a clean slate: to tabulate our patients' symptoms without treating them. After examining about 250 patients, we found that the chief complaint of 90% of them was facial or head pain, described as a constant, dull headache, aggravated by mandibular movements. Another 10% offered as their chief symptoms some type of mandibular dysfunction — clicking, subluxation (usually described as the jaw slipping momentarily, with a feeling that the bite is off), actual dislocation, or limitation. The last was the most common. With most types of dysfunction there was also pain. We found that instead of the syndrome described by Costen, characterized by multiplicity of symptoms and simplicity of treatment, we found relative simplicity of symptoms: pain and dysfunction. Some patients had marked pain with little dysfunction; others had marked dysfunction with little pain. But most of them had some degree of pain and dysfunction. We concluded that we really were dealing with a simple pain-dysfunction syndrome.⁽³⁾

THE PAIN-DYSFUNCTION SYNDROME

Before long it became evident that such syndromes were common in other parts of the body; the wrist—in writer's cramp, the elbow—in tennis elbow, stiff neck, bursitis of the shoulder, and low back pain. Our investigations led to the conclusion that these symptoms could be explained on the basis of painful impulses arising from the muscles and tendons. Such impulses would cause spasm, which in turn was painful, and thus there was set off a self-perpetuating cycle of pain and spasm. Upon examining our patients, we found in many of them painful areas in the musculature such as are found in other parts of the body. We also found that by using anesthetics, either in the form of surface anesthetics such as ethyl chloride spray, or intramuscular procaine, many of these patients were able to

stretch their muscles, and function was resumed. In many of them, where pain was not too great, exercise alone seemed to break up the cycle and restore normal function. With further study, covering a total of 1500 patients, half of this number seen at the Temporomandibular Joint Clinic and half in private practice, the mechanism became clearer.

MECHANISM

Goldensohn has described the physiology of muscle, and pointed out that in some patients, particularly under tension, there is increased motor unit activity. It appears that the syndrome described may be precipitated in patients with this kind of increased tension of the musculature. This tension is, of course, generalized, occurring in all muscles including those of the jaw. We found that most of our patients with limitation experienced the onset of the symptom upon opening the mouth on awakening, taking a wide bite, following a long dental appointment or difficult extraction, or sometimes following some minor change in proprioception such as inevitable with any type of restorative dentistry. It would seem that with predisposed patients, the stretch receptors fire off sooner than they would in other individuals. When limitation follows dental treatment, the problem is not what was done, but rather that anything was done.

OCCCLUSION

We have all had the experience of seeing patients made unhappy by relatively minor restorative procedures. It is my belief that such reaction falls within the scope of the syndrome I have described representing muscular response to proprioceptive changes. The question presents itself, how can such reactions be avoided or at least minimized?

I would suggest three means. The first is taking a complete history. A famous English physician lecturing before his

students said, "Listen, listen, listen. The patient is giving you the diagnosis." Many of our patients actually tell us that they adapt poorly to dental restorative treatment. Unfortunately, when we hasten to the task at hand, without looking at the patient and listening to him, we may not heed the warning. It is difficult for a patient to express himself with a mouth full of cotton rolls. My first suggestion is that we take the time for more complete histories before undertaking restorative treatment of any extent.

The second suggestion I would like to make is that we broaden the scope of our clinical examination. Instead of focusing our entire attention upon teeth and their occlusion, even including plaster casts, I feel that if we would observe the range and character of mandibular and condylar movements, and the size, state, and presence or absence of painful areas in the musculature, we could tell much about the use to which the individual puts his jaws. I do not believe that among civilized people large or painful jaw muscles are due to the prolonged and vigorous chewing of fibrous food. As a result of my experience, I feel that such changes result from the use of the jaw muscles to relieve emotional tension through various habits such as clenching and gnashing, usually grouped under the heading of "bruxism."

A third suggestion is that we modify our attitude towards the problem of occlusion. In the history of our profession there have come down various concepts of the "ideal." But we must remember that the purpose of an occlusion is function for the patient and not to please the dentist. We must be on guard against interfering with occlusion, particularly in patients who on the basis of history and physical examination appear to adapt poorly to changes in proprioception. In such patients, occlusion is often unstable, the centric relation changing from one time to another. Altering of the occlusion of the teeth means a change in the message relayed to the muscles from the stretch receptors in the periodontal membranes. For some patients the altering of

occlusion presents some of the problems of a major surgical procedure. It should therefore be approached with competence and caution. We should also realize that in the physiological system that we treat the jaw bones, joints, and teeth are all passive, doing what muscles make them do. It is true that teeth, like shoes, can fit poorly or fit well; but we will all agree that good fitting shoes are much more important to the postman than to an executive who keeps his feet on his desk.

PRINCIPLES OF MANAGEMENT

In the management of temporomandibular joint disorders an accurate diagnosis is, of course, the first prerequisite. Organic disease affecting the joint is relatively rare, but it does occur and must be excluded by differential diagnosis.

In diagnosis, as I see it, there are two

dangers. One is to see a disorder where one does not actually exist. The other is not to recognize that one does exist. The symptoms of dysfunction are not difficult to recognize but the differential diagnosis of facial pain is not easy. Nor is management. It demands in the first place a general understanding of the physiological mechanisms at play. Second, patience and the ability to resist the desire for dramatic results. Third, an understanding of the basic principles of therapy of other specialties of medicine, particularly physical medicine and psychiatry. Such understanding must, of course, be applied to the particular area of our interest. It seems to me that in the management of temporomandibular joint disorders what often gets us into trouble is not what we don't know, but what we are certain about things that simply are not so.

2 E. 54th Street.

ACADEMY OF DENTISTRY, TORONTO

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Effect of Massive Dosages of a New Antifungal Agent, Amphotericin B, on the Oral Tissues of the Rat

EDMUND APPLEBAUM, D.D.S., AUSTIN H. KUTSCHER, D.D.S., EDWARD V.

ZEGARELLI, D.D.S., M.S., and HENRY P. LEVY, D.D.S., New York

This report is concerned with the results of a study designed to ascertain any local oral evidences of toxicity resulting from the chronic oral administration of Amphotericin B in rats as determined by gross and histologic examination of the mouth tissues.

Amphotericin B, a new antifungal antibiotic, formed by a hitherto unidentified species of *Streptomyces*, has been found most useful in treating superficial dermal infections caused by yeasts and fungi. It has also been extensively studied as a suppressant of yeasts and fungi in the gastrointestinal tract when used prophylactically in combination with broad spectrum antibiotics or alone (administered by the oral route in capsule or suspension form) in the management of *Candida albicans* overgrowth resulting from antibiotic therapy.

Amphotericin B, in various forms, is also undergoing clinical trial for the treatment of oral moniliasis and such lesions as denture stomatitis and angular stomatitis — wherein the *Candida albicans* organism may be playing a contributing role.

Since some absorption of Amphotericin B does occur following oral administration, it was considered necessary not only to determine its possible local toxic effects but also its systemic effects on these same tissues.

METHODS

The gross specimens forming the basis of this study were obtained from The Squibb Institute for Medical Research. The material consisted of the heads of 91 rats which had undergone long term oral administration of Amphotericin B to determine its toxicity. The Amphotericin B was administered, in varying concentrations, incorporated in the animals' regular diet.

The 91 animals were divided into four groups receiving the following dosages of Amphotericin B:

Group I (16 animals) received a diet containing 5-10% of Amphotericin B by weight for a period of 94-98 days.

Group II (25 animals) received a diet containing 2.5% of Amphotericin B for 94-98 days.

Group III (25 animals) received a diet containing 0.8% of Amphotericin B for a period of 94-98 days.

*Department of Anatomy of the College of Physicians and Surgeons, Columbia University, New York, New York, and the Division of Stomatology, School of Dental and Oral Surgery, Columbia University, New York, New York.

Group IV (25 animals) served as experimental controls and remained untreated. These animals were observed for a period of 56-99 days.

Thus, three of the four groups of animals varied only in the size of the daily dosage of ingested Amphotericin B with the fourth group serving as controls. In all other respects (diet, cages, et cetera) the animals in all groups were cared for in similar and routine fashion.

Tissues from 8 animals in Group I (the highest dosage regimen), 5 animals in Group II, 5 animals in Group III, and 8 animals in control Group IV were studied. Tissues from the remaining animals were available for continued study if warranted.

The heads had been in 10% formalin for at least two weeks. Specimens of the oral mucous membranes were obtained from the buccal mucous membrane, tongue, and lip of each animal for histologic study. All tissue specimens were stained with hematoxylin and eosin. These specimens remained coded ("blind") throughout the period of histological study.

RESULTS

Grossly, the tissues of the mouth and jaws of all animals appeared normal. Histological studies of the Amphotericin B treated animals (Groups I, II, and III) did not reveal any significant changes when compared with a study of similar tissues from the untreated control group (Group IV).

DISCUSSION

Although deleterious histologic changes in the oral tissues of the Amphotericin B treated rats were not apparent, these findings cannot be construed as being entirely indicative of negative findings for the body as a whole since no studies of other organ systems were undertaken in our laboratory. Nor can these observations be interpreted as evidence that there must have been an absence of any "clinical findings" elsewhere in the body. Extreme care must also be taken in the projection of these data (in rats) to the human species.

The orally administered dosages of Amphotericin B which have been employed in man have ranged from as little as 50 mg. to as high (in rare instances) as 16 grams per day. In the management of oral monilial lesions, the total dose of Amphotericin B when employed topically might range from 20 to 60 mg. per day.

SUMMARY

The oral soft tissues of rats which had received massive doses of a new, effective, antifungal agent, Amphotericin B, were studied grossly and histologically.

Comparative "blind" histologic studies of the soft tissues of the mouth did not reveal significant changes in the Amphotericin B treated rats when compared with the same tissues of the untreated control group.

630 West 168th Street

"Labour preserves us from three great evils — weariness, vice, want."

— Voltaire.

EDITORIAL

The Topical Application of Stannous Fluoride

Experiments on animals and humans have proved beyond any reasonable doubt that the topical application of stannous fluoride will substantially reduce dental caries. Results of these experiments reveal a significantly greater reduction in dental caries when compared with sodium fluoride. The individual largely responsible for stannous fluoride investigations is Dr. Joseph C. Muhler of the University of Indiana, U.S.A.

Most experiments have been conducted on children and adults using a single application once a year of a stannous fluoride solution. The clinical aspects of this compound have been studied for ten years and include approximately 100,000 children and 1,500 adults.

The procedure recommended for the application of this solution, although not difficult, is nevertheless quite specific and must be followed exactly to assure that the desired benefits will accrue.

A fresh solution of stannous fluoride (SnF_2) must be used for each application, and should be prepared just prior to its use. The freshness of the solution is significant because a solution of SnF_2 quickly hydrolyzes to insoluble and ineffective stannous hydroxide. An eight per cent solution is generally used and is prepared by dissolving 0.8 grams of SnF_2 in 10 millilitres of distilled water.

A thorough cleansing of the teeth including stripping of the interproximal areas with lightning strips is essential at the beginning of the appointment. This should be followed by a thorough rinsing.

The next step is the complete isolation of the teeth by means of cotton rolls, a quadrant at a time. The teeth, again a quadrant at a time, should be dried by gently swabbing with alcohol followed by a jet of air. The isolated dried teeth should now be dampened continually for 3-4 minutes per quadrant using a cotton tipped applicator. An ordinary saliva ejector may prove useful when applying the solution. Certain elaborate combination cotton roll holder-ejectors, if they can effectively maintain a dry field, would be of substantial assistance when treating the lower teeth.

The patient should be instructed specifically not to put anything in the mouth for one hour following the topical treatment.

The storage of SnF_2 is another factor demanding exact precautions. SnF_2 readily hydrolyzes in the presence of moisture. Hence it is important that the stock of SnF_2 powder is stored under conditions where exposure to air and moisture are well controlled. The best way of assuring this is to have the powder in bulk and stored in small vials containing a de-

hydrating agent. A silica gel is an excellent dehydrating agent. Purchasing SnF_2 in capsule form therefore has certain obvious risks unless it is fresh from the manufacturer and used immediately.

The effectiveness of SnF_2 seems to be increased by applications more often than once per year. Particularly promising is the recent evidence that topical applications of SnF_2 augment the protection offered by ingested fluoride as in communal water supplies. Such combined methods resulted in one study, in a caries reduction of approximately eighty per cent.

The topical application of stannous fluoride is a safe and effective measure of achieving a worthwhile reduction in dental caries. There is however one disadvantage, and that is the tendency for certain areas of abnormal tooth structure such as hypoplasia, caries and margins of synthetic porcelain fillings, to become clinically pigmented.

It is of course advisable when possible that topical applications be given by a dental hygienist thereby liberating the dentist's time for other more complex forms of treatment.

THE LIBRARY

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CORRECTION:

The address of the publishers of the book "Precision Work for Partial Dentures" should read: Swiss Dentistry Distributors, Evanston, Illinois. The review appeared in the July issue.

THE ASSOCIATION

Low Cost Dental Clinic to be Opened in Manitoba

Dr. Fred Parrott, president of the Manitoba Dental Association, has announced the following appointments to the Management Committee of the new low cost dental clinic now open in Winnipeg: Director, Dr. Jack Pierce; members of the management committee: Drs. G. A. Buchanan, M. J. Snidal, Arthur Schwartz, and two laymen appointed by the health minister to work with the four dentists in accordance with the recently revised Dental Act—Mr. A. H. Thorndycraft and Mr. A. H. Fisher.

The cost of providing competent dentists for the clinic will be fully borne by the Association. The low-cost clinic was provided for in amendments to the Dental Act passed at the last session of legislature and the dentists of Manitoba have taken this step as part of their program of public service to the people of Manitoba who require dentures but are unable to pay the full price.

There are no means tests for users of the clinic, and full sets of upper or lower plates will be made at low costs under the supervision of dentists.

Dr. George Johnson, minister of health and public welfare, expressed appreciation to the Manitoba Dental Association for what he termed "Their prompt action in setting out plans to provide low cost dentures for residents of the province." He said the clinic fills a need in the community, and promised the full co-operation of his department in making the venture "a service to the province."

Washington 'Denturists' Fail

The initiative sponsored by 'denturists' in Washington state to place licensure of dental laboratory technicians on the November general election ballot has failed.

In order to place the measure before the electorate, 100,000 signatures were needed by July 8. The deadline passed without any effort being made to file the required number of signatures with the state Attorney General.

The legislation involved would have created a new class of licensees known as "denturists" who are not licensed dentists but who would be permitted to "make, fit and repair dentures for healthy and toothless human mouths."

The Washington State Dental Association planned a well coordinated effort in opposition to the proposed initiative.

"Manitoba Solves False Teeth Row"

—reprinted from *The Financial Post*, July 16, 1960

By JOHN IRWIN

A new character has entered Manitoba's false teeth controversy.

He — or, more often, she — is a "dental auxiliary" and may solve the jurisdictional battle about who may or may not enter a patient's mouth in the process of providing false teeth.

The cast of characters so far:

- Dentists, the only people entitled to examine the patient's mouth, diagnose his trouble and prescribe a remedy.

- "Denturists," who have been doing all these things, as well as making the teeth, although their authority is restricted by law to work outside the mouth.

- Dental technicians who, quite properly, restrict themselves to the making of teeth on instructions from a dentist.

The dental auxiliary will now be licensed, after formal training and under a dentist's supervision, to work in the patient's mouth, taking impressions, measuring the "bite" and making minor denture repairs.

Actually, the dental auxiliary is not an entirely new character in Manitoba but an extension of the role of the dental hygienist who, since 1952, has been authorized to scale and polish teeth, take X-rays and disseminate information on dental health.

The whole problem was precipitated by the fact that Manitoba is short of dentists. Outside metropolitan Winnipeg there is only one dentist for every 10,000 population, roughly the same ratio which prevailed in the U. S. 120 years ago.

Since the dentists were unable, and in a few cases unwilling, to meet adequately the public's need for dental care, 31 "denturists" moved in to fill the gap.

This alarmed the Manitoba Dental Association which feels that, in the public interest, responsibility for all aspects of dental care should remain with fully qualified dentists.

The quarrel ended before the Manitoba legislature which passed a bill licensing the dental auxiliaries, to take some of the load off the dentists, and approved creation of a low-fee denture clinic to be set up in downtown Winnipeg and staffed by members of the Manitoba Dental Association.

A new faculty of dentistry established at the University of Manitoba will also help boost available dental care. It will be the first dental college established in Canada in almost half a century.

It likely will play a key role in the training of dental auxiliaries.

The denturists, whose reason for existence presumably is disappearing under the new system, have been given three months to close up shop, with the understanding that they will not be prosecuted in this period of grace.

Generally speaking, the dentists have had their way, although not all of them accept the new system.

J. W. Neilson, Dean of Dentistry, University of Manitoba, says:

"Our American friends in particular are watching developments with great trepidation, fearing the worst, both for the public and for the profession."

At least the planning and making of false teeth remains under the supervision of fully qualified dentists.

"But," says Neilson, "it should be stated that the lawmakers in rendering their decision, left no doubt that the public demand and the public good must in some way be better served — preferably by having dentists provide more and better denture service than had been provided in the recent past."

"It was also implied, and not too subtly, that if such an improvement did not evolve, the legislature would have little practical alternative than to lower standards for admission to denture practice in the province, if the issue should again be raised."

Tooth Laws Vary Across the Country

What's the position of dental technicians and "denturists" in other provinces? Here's a rundown, given **FP** by Dr. Donald Gullett, secretary, Canadian Dental Association.

● **British Columbia:** A provincial law, passed last month, permits certain technicians to practice directly to the public (make and fit false teeth, etc.).

"This," says Dr. Gullett, "gives privileged recognition to some 35 men who have been illegally in business for more than seven years."

The 300 other dental technicians in the province will continue making dentures, etc., under dentists' prescriptions.

● **Alberta:** While a minority group of dental technicians "is active", no provincial legislation is contemplated.

● **Saskatchewan:** The 1959 legislature passed a law granting "denturists" the right to practice as dentists. This was reversed at the start of the 1960 session. Only one "denturist" was affected.

● **Ontario:** Under a provincial law, technicians work under direction of the dental profession.

● **Quebec and New Brunswick** have laws similar to Ontario's.

● **Nova Scotia, Prince Edward Island and Newfoundland** have no laws in force. Dentists and technicians work well together.

Dr. Gullett said the development of dental auxiliaries (who scale, polish teeth, take x-rays, etc.) is a big problem. Auxiliaries save time for the dentist who is freed to attend to more patients.

"We are strongly in favor of more auxiliaries," says Dr. Gullett, "but they must be properly trained."

There is a school of dental hygienists in Toronto and a school will shortly be opened in Winnipeg.

M.P. Comments on Recruitment

D. M. Fisher, M.P. (C.C.F.) commented recently in the House of Commons on recruitment to the medical and dental professions. He stated that there is a decline in the number of students interested in entering medicine and dentistry. As a teacher, Mr. Fisher stated, he is in contact with students and tried to find out why so few are interested in these professions.

To summarize Mr. Fisher's remarks contained in House of Commons Debates, June 23, 1960:

"The standard answer — I do not know whether it is the right one — is not a question of money at all. It has nothing to do with the fact that more and more doctors are becoming employees. It is always the length and the cost of the training rather than any worry or concern about the kind of money they will be making later."

"... today the only way you can get young people to go into professions where further education is required beyond high school is to offer a very attractive set-up both in terms of scholarships and of ... the kind of course which is comparable in its length and toughness and difficulty with some of the other training carried out in universities."

"We are getting to have a grave shortage of dentists, and most dentists are still very much more under a private enterprise set-up than are the doctors."

"... Despite the fact that there is a good chance for individuality and working on their own as well as having a high income ... in so many parts of Canada we are short of dentists."

"The problems of recruitment in this field I think have to be part of the Minister's (of Nat. Health and Welfare) concern, if not his responsibility; and if the professions themselves will not come up with answers, I think he has to try to find some of his own."

BUREAU OF ECONOMIC RESEARCH

Distribution of Dentists in Urban and Rural Areas of Canada, 1960¹

For several years the Canadian Dental Association has issued annual information on the number of dentists practising in Canada and dentist to population ratios. These figures have brought attention to the uneven distribution of dentists between different provinces. There is evidence, however, of even greater disparity when a comparison is made of the distribution of dentists in cities with populations of 10,000 and over and in smaller communities.

Whereas in six of Canada's ten provinces the population in settlements of under 10,000 still exceeds that located in more urban

areas, in every province the majority of dentists is located in the larger centres.

Whether the urban, rural or total provincial figures are examined, Newfoundland is consistently the province with the smallest number of dentists in relation to its population. Ontario and British Columbia have the best all round distributions. Prince Edward Island comes first in the dentists per urban population category; however, its dentist-population ratios appear distorted because its small geographical area makes it possible for dentists serving the outlying areas to be located in Charlottetown itself.

The provinces rank as follows in the number of dentists they have in relation to their urban, rural, and total population:

Rank	Dentists to Total Population	Dentists to Urban Population	Dentists to Rural Population
1	Ontario	Prince Edward Island	British Columbia
2	British Columbia	Alberta	Ontario
3	Prince Edward Island	British Columbia	Nova Scotia
4	Alberta	Ontario	Prince Edward Island
5	Manitoba	Manitoba	Alberta
6	Quebec	Saskatchewan	Quebec
7	Nova Scotia	Quebec	Saskatchewan
8	Saskatchewan	New Brunswick	New Brunswick
9	New Brunswick	Nova Scotia	Manitoba
10	Newfoundland	Newfoundland	Newfoundland

For the following tables, it has been necessary to apply 1956 urban-rural population breakdowns to 1959 intercensal estimates. This will, of course, somewhat exaggerate the high dentist-population ratio for the rural areas, but still provides a useful basis for comparing the different provinces.

The first table gives the usual population per dentist figures for urban, rural, and total classifications while the second table compares the percentage distributions of population and dentists. Table 3 contains another often used method of comparing the supply of dentists in various provinces—that of the dentist per 10,000 population ratio. This is a useful figure in that it is amenable to graphic representation.

1. "Urban" is used to mean cities of 10,000 and over and "rural" to mean all other communities.

TABLE 1.
Population per Dentist, Canada, 1960.

Province	In Cities of 10,000 and over	Other Com- munities	In Province As Whole
Newfoundland	3,424	30,859	10,441
Prince Edward Island	902	5,304	2,914
Nova Scotia	2,693	5,146	3,710
New Brunswick	2,682	8,604	5,175
Quebec	2,538	7,828	3,612
Ontario	1,956	4,136	2,403
Manitoba	2,041	9,145	3,195
Saskatchewan	2,046	8,411	4,698
Alberta	1,790	7,167	3,017
British Columbia	1,933	3,920	2,404
CANADA	2,119	6,061	3,018

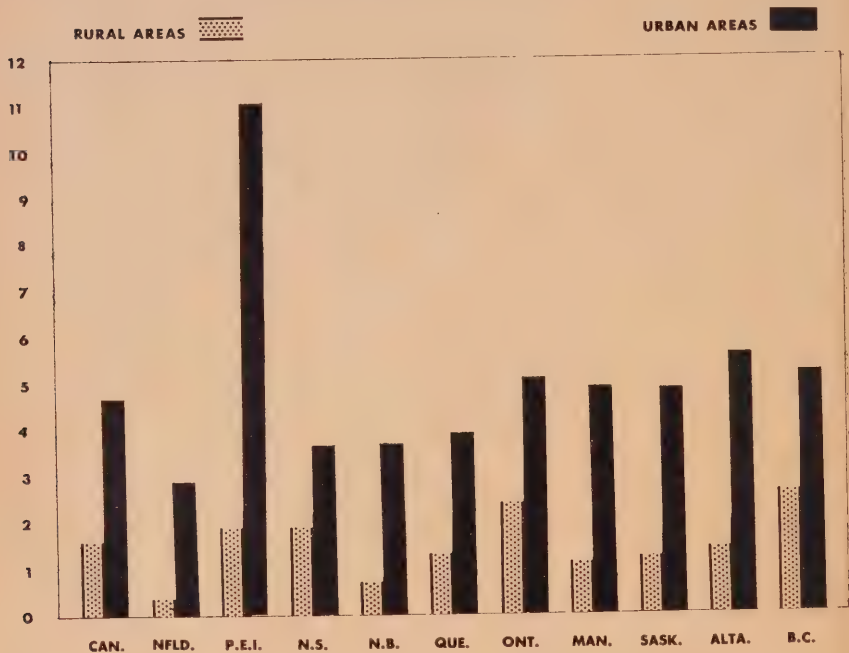
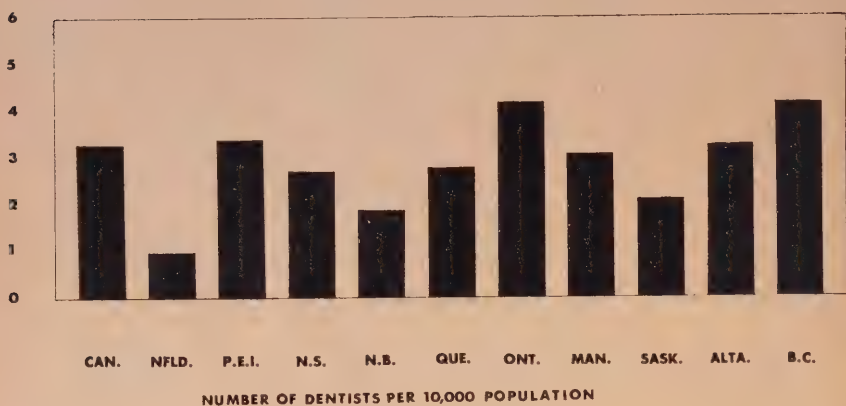
TABLE 2.
Percentage Distribution of Dentists and Population Compared

Province	Per Cent of Total Located In Cities 10,000 and Over		Per Cent of Total Located in Other Communities	
	Dentists	Population	Dentists	Population
Newfoundland	73.7	24.4	26.3	75.6
Prince Edward Island	54.5	16.8	45.5	83.2
Nova Scotia	58.5	42.5	41.5	57.5
New Brunswick	57.8	30.0	42.2	70.0
Quebec	79.7	56.0	20.3	44.0
Ontario	79.5	64.7	20.5	35.3
Manitoba	83.8	53.5	16.2	46.5
Saskatchewan	58.2	25.4	41.8	74.6
Alberta	77.3	45.8	22.7	54.2
British Columbia	76.3	61.3	23.7	38.7
CANADA	77.2	54.2	22.8	45.8

TABLE 3.
Number of Dentists per 10,000 Population.

	In Cities of 10,000 and Over	In Other Communities	In Province as whole
Newfoundland	2.9	.3	1.0
Prince Edward Island	11.1	1.9	3.4
Nova Scotia	3.7	1.9	2.7
New Brunswick	3.7	1.2	1.9
Quebec	3.9	1.3	2.8
Ontario	5.1	2.4	4.2
Manitoba	4.9	1.1	3.1
Saskatchewan	4.9	1.2	2.1
Alberta	5.6	1.4	3.3
British Columbia	5.2	2.6	4.2
CANADA	4.7	1.6	3.3

NUMBER OF DENTISTS PER 10,000 POPULATION, IN PROVINCE AS WHOLE



THE CORPS



R.C.D.C. FLASHBACK

Dental Clinic, Camp Petawawa, Ontario, July, 1941.

Captain Gaudet Promoted Major

Army Headquarters has announced the promotion of Captain T. C. Gaudet to the rank of Major effective July 21.

Major Gaudet was born at Little Brook, N.S., in 1919 and after graduation from the University of Montreal in 1952 was commissioned a Captain in the RCDC. He took his release in February 1953 but re-enrolled in the Corps in July of the same year. Since that time he has served at H.M.C.S. "Cornwallis" and R.C.A.F. Station, Greenwood, N.S.

Captain Kelly to Germany

Captain L. E. Kelly of Vancouver has been posted for a tour of duty with No. 4 Field Dental Company in Germany. Until this posting he has been employed at the R.C.S.M.E., Vedder Crossing, B.C.

Postings in Canada

The following postings of dental officers have recently taken place in Canada:

Major J. Durand of Montreal to Quebec Military Hospital, Quebec City, from Camp Valcartier, Que.

Major D. E. McDermott of Toronto to

Camp Gagetown, N.B. from Rivers, Man.

Major H. E. McKenna of Sherbrooke, Que., to No. 25 Central Ordnance Depot, Montreal, from Quebec City.



No. 1 Dental Equipment Depot has moved into the spacious new building pictured above at Camp Petawawa, Ontario. The Depot, commanded by Major J. W. Fletcher of Ottawa, is responsible for receiving and issuing all dental stores for the R.C.D.C. In addition, dental equipment repairers and dental storemen are trained here and major repairs made to dental equipment.

THE PROVINCES

BRITISH COLUMBIA

Radiation Hazards in Dental Offices

Commencing this fall, the Provincial Health Branch plans to offer to every dental office in this province a free radiation protection survey to detect if any hazards exist from the dental x-ray unit.

This is part of an over-all program designed to cover all x-ray equipment in the province, whether in hospitals, industry, or in professional offices.

To local dental societies, the Health Branch will loan through the local health unit, a film which demonstrates how radiation hazards may be simply and inexpensively controlled. Explanatory material will also be supplied.

Thereafter, in the rural areas, a regional dental consultant of the Division of Preventive Dentistry will contact each practising dentist, and, if so requested, will offer practical advice, and place in the office four or five monitoring films. These films will be collected after a two-week period and sent to Ottawa to be evaluated by the Radiation Protection Division of the Department of National Health and Welfare. The cost of this service will be borne by the Provincial Health Branch.

When received from Ottawa, the results of the films will be communicated to the dentist. If any x-ray unit demonstrates excessive radiation after the recommended control measures have been taken, the Health Branch will make available the services of a specially trained radiological technician with special equipment to carry out an exhaustive survey of the equipment to endeavour to locate the fault.

Dr. Harold Cline Resigns From Technicians Board

Named by the Minister of Health, Dr. Harold Cline has submitted his resignation to the Honorable Eric Martin as a member of the board governing dental technicians. Dr. Cline pointed out to the minister how untenable his position had become because

Division 10 of the regulations (permitting technicians to deal directly with the public) was completely in conflict with the fundamental principles he (Dr. Cline) stood for as a member of a health profession.

New B.C.D.A. Executive

At the annual meeting of the B. C. Dental Association the report of the committee on nominations was unanimously accepted. In consequence the executive is now composed of these men:

President: Dr. Harold R. Henderson; president-elect: Dr. J. C. Lewis; past president: Dr. C. B. Jameson; treasurer: Dr. O. F. Wright; secretary: Dr. R. K. Lindsay, and directors: Drs. J. M. Carefoot, W. G. Dempsey, J. A. Alexander, G. A. Freeze, S. S. Banford, J. E. G. Harrison, F. J. Netherton, F. A. Fergie, H. G. Pettapiece and D. E. Waller.

There are now representatives on the executive from all districts of the province. The 1961 convention will be held in Kelowna.

D.H.M.

NEWFOUNDLAND

Newfoundland Dental Society Convention

Dr. H. J. Hann of St. John's was elected president of the Newfoundland Dental Society at its recent meeting held at the Newfoundland Hotel, St. John's, on June 10th to 13th. Dr. Herbert M. Brown of Bonavista, a senior practitioner, was made Honorary Life Member of the Society, being the third person to be so honoured.

Dr. Hann was born in Port aux Basques, and graduated from Dalhousie in 1954. Since then he has served actively in various offices and committees both of the local and national associations. He is making an outstanding contribution to dentistry, particularly in the field of dental public health.

Dr. Brown is a native of Bonavista but after graduation from the R.C.D.S. of Ontario in 1920, went for a time to practise in Leth-

bridge, Edmonton and Niagara Falls. Following post graduate work in prosthodontics in Chicago, he returned to Bonavista in 1930 where he now practises. He has frequently held office in the Newfoundland Dental Society and enjoys considerable repute as an after dinner clinician.

Other officers elected to serve for the coming year were: 1st vice-president, Dr. R. W. Ball, Grand Falls; 2nd vice-president, Dr. H. F. Giovanetti, Bell Island; secretary, Dr. B. L. Bowden, St. John's, and treasurer, Dr. Wm. O'Driscoll, St. John's. Re-elected were: Dr. J. M. Darcy as C.D.A. delegate and Dr. D. K. Peters as Journal Associate Editor.

Convention speakers at the luncheon meetings were Dr. James McGrath, Minister of Health for the Province of Newfoundland, Dr. J. D. McLean, Dean of Dentistry, Dalhousie University, and Dr. H. K. Brown, Dental Consultant, Department of National Health & Welfare.

Dr. McGrath presented some of his views on dental service and dental education as they apply here. He despaired at the extent of service being rendered, and saw no hope that either the government or private agency could ever provide an adequate dental treatment service for our people. He sees no need for pre-dental and pre-medical courses as they now exist, feeling that they are an obstacle and a deterrent to prospective members of both professions.

Dr. McLean reported on developments in the dental faculty at Dalhousie, and the need for the recruitment of young men into dentistry.

The Deputy Mayor of St. John's, Mr. James D. Higgins, Q.C., and members of the St. John's Municipal Council, were the Society's guests to hear Dr. H. K. Brown tell the fluoridation story. Dr. Brown was very well received and favourable press reports subsequently appeared.

Three clinicians led the scientific program. Capt. J. L. Sandman, U.S.N., of the United States Naval Station, Argentia, lectured in Prosthetics; Dr. W. G. McIntosh, Professor of Periodontics, University of Toronto, presented two papers in his specialty; Dr. P. S. Christie, Professor of Orthodontics, Dalhousie University, did likewise. The entire program emphasized most useful and pertinent information for the practitioners assembled.

The ladies assisted in the social side of the program, and had a fine time of their own. They were the guests of Ayres Limited, St. John's, to a display of summer fashions created by Miss June Bennett, fashion consultant of that firm. Bally Haly Golf and Country Club was the scene of a luncheon and bridge party, and the informal mixed func-

tion was a lobster party at the Naval Officers' Club, the Crow's Nest.

The Convention was concluded with the formal President's Dinner and Dance at the Old Colony Club. Speakers were Dr. Donald Poole of Corner Brook, outgoing president of the Newfoundland Dental Society, and Dr. W. G. McIntosh, president of the Canadian Dental Association. Members, wives and guests listened to an impressive presentation by the national president on the present state of Canadian dentistry and the paths it tends to follow.

The Society is proud of the enthusiasm which its conventions arouse. This year, 80 per cent of its members attended.

Next year's meeting will be held in the inland paper town of Grand Falls.

Dr. F. A. Janes

The many friends of Dr. F. A. Janes throughout the profession in Canada will be sorry to learn of his recent illness. Dr. Janes has served the Newfoundland Dental Society in many important offices, including that of president. He has served the Canadian Dental Association as a member of the Board of Governors and as Associate Editor of the Journal. We wish for Dr. Janes a speedy recovery to good health.

Two Technicians Charged

Two dental technicians, both residents of St. John's, were charged with a breach of the Newfoundland Dental Act. Both were convicted, one receiving a fine and the other a suspended sentence. A charge against a third is pending.

ONTARIO

Dr. Richard J. Godfrey

Dr. Richard J. Godfrey, professor of Prosthodontics and Head of the department at the Faculty of Dentistry, University of Toronto, is retiring from active teaching duties this year. He has been appointed Professor Emeritus by the Board of Governors of the University. He has been a member of the staff since he returned from service over-

seas with the Canadian Army in 1919.

Dr. Godfrey received his Doctor of Dental Surgery in 1916, and the degree of Master of Science in Dentistry in 1946. He was elected a Fellow of the American College of Dentists in 1952. Recently he was appointed to the Board of Consultants to the Royal Canadian Dental Corps by the Minister of Defence.

He is past president of the Royal College of Dental Surgeons of Ontario and past president of the National Board of Dental Examiners of Canada.

Dr. R. L. Twible

Dr. R. L. Twible has been appointed head of the department of prosthodontics in the University of Toronto's Faculty of Dentistry, and has been promoted to the rank of professor, University President Claude Bissell

has announced. He succeeds Dr. R. J. Godfrey, who has retired with the title professor emeritus.

Dr. Twible is a Toronto graduate who joined the staff in 1937. He was granted leave of absence in 1941 to enlist in the Royal Canadian Dental Corps and was reinstated in 1945.

Dr. Thorpe B. Van de Mark has been appointed assistant professor in oral surgery. A Toronto graduate, he took postgraduate training at Washington University, St. Louis, and at the Geisinger Memorial Hospital, Danville, Pa. He was a staff member in 1954, and was also consultant in oral surgery at the Hospital for Sick Children. He resigned to enter the Faculty of Medicine, from which he graduated in 1959.

Promotions to assistant professorships in the Faculty of Dentistry have been received by Drs. R. O. Fisk, A. M. Hunt, W. D. McKay and E. M. Madlener.

GENERAL NEWS

Dr. Nagle To Be Honored

Dr. Raymond J. Nagle, New York, will be the recipient of the annual Henry Spenadel award given by the First District Dental Society of New York. Dr. Nagle will receive the award Oct. 3 "in recognition of his contributions to the welfare of humanity in the field of dentistry." A member of the ADA Council on Dental Education, Dr. Nagle is dean of New York University college of dentistry and president of the American Association of Dental Schools.

Anti-Radiation Pill

A U. S. Army M.D., Lt.-Col. James Hartgering said he hoped a usable anti-radiation pill to protect humans from the effects of radioactive materials would be available within two years. He made the statement before the House Space Committee.

Study Shows Benefits of Fluoride Tablets

The use of fluoride tablets for treatment of children in areas where the water supply is not fluoridated can be most beneficial. This was the conclusion reached in a recent study by the National Institute of Dental Research. The study, carried out by Dr. F. J. McClure and Carl L. White, of NIDR, showed that the DMF and DEF rates of 121 children ingesting a daily fluoride tablet compared favorably with the rate for children using fluoridated drinking water. The tablets, containing 2.21 mg of NaF (1.0 mg. of fluoride), did not appear to cause any cosmetically significant fluorosis. However, in view of the fact that the fluoride content of the "home" water supply must be known, investigators concluded that, while effective, this method is not as practical as water fluoridation.

Three New ADA Staff Members Announced for Central Office and NIDR

Sec. Harold Hillenbrand has announced three new appointments to the ADA staff. They are: Dr. Kenneth Wessels, who assumed the duties of an assistant secretary, Council on Dental Education, Aug. 1; Miss Doris Webb, who became director of the division of educational measurements, Council on Dental Education, July 1, and Dr. F. J. Kendrick, who became a research associate on the ADA staff at the National Institute of Dental Research, Aug. 15.

Gastro-Camera

A Japanese optical company is marketing a gastro-camera, about the size of the tip of the index finger, that photographs the inside of the human stomach. It contains its own light source and film supply and is attached to a slender instrument so that it can be manipulated after being swallowed. The apparatus can photograph ulcers, gastritis and cancer in the stomach.

Codeine Substitute

A U. of Illinois research team has found a new synthetic drug (designated as Ro 4-1778/1) which appears to be at least as potent as codeine without the latter's habit-forming properties. If the experimental work is confirmed by others, MD's may soon have a long hoped for potent, non-addictive drug between morphine and codeine.

'Denturists' Fail in Washington

The "denturist" attempt to place a general proposal to legalize their activities on the November ballot in the state of Washington has failed.

In announcing its victory, the Washington State Dental Association urged continued care and suggested that the "denturist" group may attempt to submit a bill to license "denturists" to the 1961 Washington legislature, which will meet January through March, 1961.

Cerebral Stroke

Evidence that anger can cause a cerebral stroke came from experiments on monkeys and dogs, according to Drs. Eliot Corday, Sanford Rothenberg, and David W. Irving, Cedars of Lebanon Hospital, Los Angeles. They proved, with new photographic technique, that large arteries supplying nourishment to the brain can go into a spasm and that blood vessels at base of monkey's brain

can contract sufficiently to cause a stroke. Internal carotid artery in monkey's brain contracted in response to an injection of adrenalin—drug equivalent of the hormone released by man under stress.

Westerners better coffee drinkers

The coffee-break has become a Canadian institution, according to the results of a survey made recently for the Pan-American Coffee Bureau.

The study, conducted by Canadian Facts Ltd., shows that 81 percent of Canadians employed in inside jobs have the benefit of daily breaks during working hours. The coffee-break is more prevalent in Ontario and the West than in the East, and more workers in offices and factories get it than those in stores and other business establishments, as the following table indicates:

Percentage of Canadians with inside jobs who have coffee breaks

All Canada average	81%
(By Regions)	
Maritimes	70
Quebec	77
Ontario	82
Prairies	86
British Columbia	89
(By Type of Business)	
Office	87
Factory	85
Store	77
Other	72

The survey also revealed that only 18 percent of Canada's workers go off the premises to get their coffee-break coffee. Of the remainder, 60 percent obtain it from the company cafeteria or make it themselves, 8 percent bring their coffee from home, and 14 percent have it sent in from restaurants.



"I'm available any time between nine and three on weekdays!"

U. S. Senate Committee Reports Favourably on Self-Employed Pension Bill

The Senate Finance Committee on June 9 approved 12 to 5 a bill permitting the nation's 10,000,000 self-employed, including dentists, to set up tax-deductible pension plans for themselves.

Under the terms of the House bill, a self-employed person would be allowed to put 10 per cent of his income, up to \$2,500 a year, into a tax-deductible pension fund, which could not exceed \$50,000. He would pay income tax on it when he drew upon the fund at retirement, but normally the tax rate then would be lower than when the money was earned. The Senate committee bill has introduced several changes in this approach: 1) the self-employed person would have to set up a pension plan for his employees in order to get benefits himself; all employees with more than three years service would have to be included; 2) the self-employed person could use only earned income, not investment income, in figuring the amount he could put into the pension plan, and 3) self-employed persons over the age of 50 at the time the bill became law would not be allowed to put in larger amounts as in the House-approved bill.

Dental X-Rays Safe, Says Council

The routine use of modern x-ray equipment and technics for dental diagnostic purposes is not harmful, the ADA Council on Dental Research has reaffirmed. Evidence from scientific studies reviewed by the Council indicates that the amount of radiation involved in making a complete radiographic survey of the entire mouth is far below the levels which would produce detectable damage to the body tissues. The Council expressed the belief that it is not only prudent but essential for patients to have x-ray examinations when the dentist feels them to be necessary.

Heart Attacks

Coronary occlusions are the end result of hardening of the arteries and physical exertion is not a factor in their production, Dr. Arthur M. Master, New York, said. In analyzing nearly 2,600 patients, Dr. Master considered activity or state of rest at moment of maximum pain suffered by the heart attack victim the hour or two preceding the attack, the entire day of the attack, and the preceding four weeks. Less than 2% of the attacks were associated in a time sense with severe exertion.

IN MEMORIAM

John Herbert Hocken — Dr. John Herbert Hocken of Toronto, died on July 21st. He was 71.

Dr. Hocken was born in Dutton, Ontario and received his early education there. He graduated from the R.C.D.S. of Ontario in 1912 and set up practice in London, Ontario. He practised in London until 1920 when he moved to Rodney where he practised until his retirement in 1925. In 1943 Dr. Hocken moved to Toronto.

James William Davies — Dr. James William Davies of Sherbrooke, Nova Scotia, died on June 24th. He was 70.

Dr. Davies was born at Salt Springs, Pictou Co., N.S. and graduated from the University of Maryland in 1913. He practised in Westville, Mulgrave and Halifax, and for the last 20 years in Sherbrooke.

He is survived by his wife and two brothers, Dr. John and Dr. Ross; his only son, William was killed overseas in 1942.

Frank Hobart O'Neil — Dr. Frank O'Neil of Vancouver passed away on June 10, 1960 in his 81st year.

He was born in Belleville, Ontario. He graduated from North Pacific Dental College, Oregon in 1907 and commenced practice in Vancouver the same year. Before his death he had been in poor health for a month, but maintained his practice until shortly before his death.

In 1958 the B.C. Dental Association presented him with its 25-50-75 award which requires 50 years of practice, 25 in B.C., and an age of at least 75.

Dr. O'Neil, a former president of the Vancouver Dental Society, was a member of the Sigma Delta fraternity.

Surviving are his twin sons, Dr. H. M. O'Neil, a dentist of Santa Paula, Calif., and Prof. J. B. O'Neil of the University of Saskatchewan, two sisters and five grandchildren.

George Harold Weber — Dr. George Harold Weber of Guelph, Ontario died on July 23rd. He was 62.

Born in New Dundee, Ontario, Dr. Weber received his early education in Guelph and graduated from the R.C.D.S. of Ontario in 1923. In 1930 he was elected president of the Wellington and County Dental Association. He was past master Waverly Lodge, A.F. & A.M. from 1933-1934 and a member of Royal City Lodge of Perfection, Scottish Rite.

During the First World War Dr. Weber served with the Canadian Field Artillery in France and from 1918 to 1919 he was a Signaller in Northern Russia.

Surviving are his wife, Marion Eleanor; three sons, Donald, Jack and Bill; and four daughters, Mary, Sylvia, Edna and Tina.

Rodrigue Charlebois — Dr. Rodrigue Charlebois of Westmount, P.Q. died on July 18th. He was 72.

Dr. Charlebois was born in Lachute and educated at Ste. Therese College and Laval University. He opened his practice in Westmount after graduating from Laval in 1914. Dr. Charlebois did not believe in retirement and was one of Montreal's oldest dentists.

He is survived by his second wife, Helen; a daughter, Mrs. M. Cartier; two sons, Pierre and Maurice.

Joseph Vingo—Dr. Joseph Vingo of Nelson, B.C., died on June 28th. He was 48.

Dr. Vingo was born in Nelson in 1911, he attended St. Joseph's School and High School, then attended the University of B. C. where he received his B.A. degree. Just before World War II he graduated from North Pacific Dental Academy in Portland, Oregon, then joined the Canadian Army. He returned to Nelson after the war and set up his dental practice. Nearly a year ago, Dr. Vingo was struck by a rare illness which left him confined to a wheel chair and he was forced to give up his practice last summer.

Five years ago Dr. Vingo was named to the highest office of the Knights of Columbus of B. C., that of state deputy. He remained in this office during 1955 and 1956, and in the latter year he was named Canadian president of the Knights of Columbus delegation to the annual convention of the KC's. He became a member of the Nelson Council in May, 1947, and was Grand Knight in 1951-52.

A keen hockey follower, he became vice-president of the Western International Hockey League in 1953, then served two years as president. At the annual meeting of the WIHL in Trail in May of this year, it was decided to establish a trophy honouring Dr. Vingo for his service to hockey in the Kootenays and B. C. The trophy will be presented to the best goaltender in the league. Dr. Vingo was also a member of the Kiwanis Club for 13 years, he served as president in 1958. He was one of the oldest members of the club which was formed in 1946.

He is survived by his wife, Rita; one son, Joseph; one daughter, Mary; his father, Steve, and one sister, Gloria.

Oliver Newton Leslie — Dr. Oliver Newton Leslie of Vancouver, B.C. died on June 14th. He was 81.

Dr. Leslie was born in Finch, Ontario and attended the Perth Collegiate Institute. He graduated from the R.C.D.S. of Ontario in 1904 and set up a practice in Perth. During that period he was active in sports, including baseball, curling, golf, fishing and hunting. In 1912 Dr. Leslie moved to Vancouver to practice. During the First World War he went overseas as a dental officer in the Canadian Pioneer Battalion, and after two years service in France he was transferred to the Canadian Hospital at Orpington, Kent, in England, where he was in charge of the "Jaw Injury Clinic". In 1919 he returned to Vancouver and resumed his practice.

Dr. Leslie is survived by his wife Anna.

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1960	Ottawa, Ontario	Sept. 25th-28th
1961	Saskatoon, Saskatchewan	June 4th-7th
1962	Vancouver, British Columbia	June 3rd-6th
1963	Toronto, Ontario	May 19th-22nd
1964	Edmonton, Alberta	June 28th-July 1st
1965	Quebec City, Quebec	May 30th-June 2nd
1967	Toronto, Ontario	May
	(Centennial Celebration of Dentistry in Canada)	

FUTURE EVENTS

Date	Function	Location	Officer	Address
Oct. 19-21, 1960	35th Annual Fall Clinic —Montreal Dental Club	Queen Elizabeth Hotel, Montreal	Dr. D. Bruce Ward, Chairman	1414 Drummond St., Suite 309, Montreal, P.Q.
Nov. 27-30, 1960	1960 Mid-Continent Dental Congress	Chase Hotel, St. Louis, Mo.		St. Louis Dental Society, 8013 Maryland Ave., Clayton 5, Mo.
May 21-24, 1961	Ontario Dental Association Convention	Royal York Hotel, Toronto, Ont.	Mrs. A. Durham,	230 St. George St., Toronto 5, Ont.
June 4-7, 1961	Western Canada Dental Society Convention	Bessborough Hotel, Saskatoon, Sask.	Dr. N. F. Gropper,	704 Canada Bldg., Saskatoon, Sask.

FACULTY OF DENTISTRY, UNIVERSITY OF TORONTO

Short postgraduate courses during the session 1960-61.

1. Occlusion and Occlusal Correction	October 17-21, 1960
2. Paedodontics	January 9 & 10, 1961
3. Endodontics	March 1, 2 & 3, 1961
4. Orthodontics	March 6-10, 1961
5. Dental Radiology	March 13-17, 1961
6. Oral Surgery	April 24-28, 1961
7. Periodontics	May 8-12, 1961

For further information please write to: The Chairman, Division of Postgraduate Studies, Faculty of Dentistry, University of Toronto, Toronto, Ontario, Canada.

TUFTS UNIVERSITY SCHOOL OF DENTAL MEDICINE Graduate and Postgraduate Courses

A Course in Periapical Surgery	January 26, 27, 1961
Hospital Management for the Dental Patient	January 11, 12, 13, 1961
Minor Oral Surgery—Each Wednesday for six weeks	March 1, 8, 22, 29, April 5, 9, 1961
Clinical Adjustment of the Occlusion	May 3, 4, 5, 1961
The Construction of the Full Crown	January 16, 17, 1961
Newer Concepts for Inlay Construction	November 15, 16, 1960

For further information write to: Director of Division of Graduate and Postgraduate Studies, School of Dental Medicine, Tufts University, 136 Harrison St., Boston 11, Massachusetts.

Other information concerning dental meetings outside Canada is available at C.D.A. Headquarters upon request.

Le rôle de la dentisterie en santé publique

par Rolland Vallée, B.A., D.D.S., Sillery, P.Qué.

LA SANTÉ PUBLIQUE

NOTIONS PRÉLIMINAIRES

Qu'entendons-nous par santé publique, par hygiène publique? Pour la bonne compréhension du texte, nous en préciserons immédiatement le sens. L'Organisation Mondiale de la Santé (O.M.S.) définit la santé comme un état de complet bien-être physique, mental et social et ne consiste pas seulement en une absence de maladie ou d'infirmité.⁽¹⁾ Tandis que l'hygiène, c'est la science de la santé; son but est de conserver et d'améliorer la santé individuelle et collective. En un mot, l'hygiène est une prévention qui amène la santé, donc la santé est une conséquence de l'hygiène. Winslow a résumé dans une courte citation ce que nous devons entendre par santé publique: "La santé publique est la science et l'art de prévenir les maladies, de prolonger la vie et de promouvoir l'efficacité de la santé physique par suite des efforts d'une

communauté organisée."⁽²⁾

Le but désiré en santé publique est évidemment d'atteindre le plus haut degré possible d'efficacité physique, mentale et sociale de l'individu, de la famille et de la collectivité.

HISTORIQUE

Ces buts sont presque atteints aujourd'hui. Mais si cela a été possible, c'est grâce à l'initiative de novateurs qui se sont attaqués au problème, l'ont étudié et ont cherché à le résoudre.

Il y a un siècle, à la suite d'un grand mouvement d'altruismes, *Edwin Chadwick*, avocat de Londres, publia un rapport très intéressant sur la protection en santé publique. En 1847, le premier acte public de santé fut adopté en Angleterre. A la même époque, à l'exemple de l'Angleterre, d'autres pays adoptèrent de pareilles mesures. En 1849, la législature du Massachusetts nomma une commission pour étudier les conditions sanitaires dans l'état et nomma *Samuel Shattuck*

pour diriger la commission. Shattuck publia en 1850: "Report of a general plan for the promotion of public and personal health." C'est aujourd'hui un rapport historique.⁽³⁾

Au Canada, au temps de la Confédération, l'hygiène publique était un sujet peu connu. Les mots "santé publique" n'avaient pas encore été inventés. Dans l'Acte de l'Amérique britannique du Nord, on ne trouve pas l'expression "Santé publique", ce qui est probablement dû au fait que lors de la Confédération, en 1867, l'hygiène publique telle qu'on la conçoit aujourd'hui était inconnue au Canada. D'ailleurs, c'est la loi d'hygiène publique adoptée en Angleterre, vers 1875, qui a attiré l'attention des autorités canadiennes sur l'opportunité d'avoir une législation similaire et qui fut un facteur important dans l'adoption d'une législation dans la province d'Ontario en 1882: loi qui établit un bureau provincial d'hygiène. Les autres provinces ont réalisé les avantages d'un service d'hygiène et toutes aujourd'hui en sont pourvues. Dans notre province, le bureau d'hygiène fut créé en 1887; l'organisation de la Province en 10 districts sanitaires avec inspecteur médical résidant à temps complet date de 1910.⁽⁴⁾

ORGANISATION

L'hygiène publique a pour but de promouvoir la santé publique. Elle a donc un but très vaste et elle doit intéresser la collectivité. Donc ses activités pour prévenir la maladie et promouvoir la santé sont la responsabilité de la collectivité, celle-ci considérée comme "unité". Il s'agit des services d'hygiène publique, agences volontaires, département d'éducation, sociétés médicales, sociétés dentaires, etc.

Comme c'est un problème qui intéresse la collectivité, qui intéresse tous les peuples, la santé publique relève d'une organisation internationale, l'O.M.S. (Organisation Mondiale de la Santé). Les deux principes fondamentaux qui guident l'O.M.S. sont ainsi définis dans sa constitution:

Universalité: "La santé de tous les peuples est une condition fondamentale de la paix du monde et de la sécurité. La possession du meilleur état de santé qu'il est capable d'atteindre constitue l'un des droits fondamentaux de tout être humain, quelles que soient sa race, sa religion, ses opinions politiques, sa condition économique."

La santé totale: "La santé est un état de complet bien-être physique, mental et social et ne consiste pas seulement en une absence de maladie ou d'infirmité."⁽⁵⁾

L'O.M.S. a son siège à Genève et compte 88 membres, dont le Canada.

Au Canada, les gouvernements fédéral et provinciaux et les municipalités ont un rôle à jouer au point de vue santé publique. Ces trois gouvernements remplissent des fonctions distinctes, qui ne se doublent pas et les attributions de chacun d'entre eux sont différentes de celles des autres, cependant, ils forment un ensemble dont le but est de répondre à tous les besoins.

Ainsi, au *gouvernement fédéral*, on a le Ministère de la Santé et du Bien-Etre social. A ce ministère, sont assignées les questions d'hygiène qui sont d'intérêt national ou d'intérêt interprovincial.

Au *gouvernement provincial*, et plus spécialement à son Ministère de la Santé, sont attribuées les questions qui sont d'intérêt provincial, l'établissement des mesures nécessaires pour obliger chaque municipalité de la province à se pourvoir d'un système d'approvisionnement d'eau potable et d'un système de disposition des eaux utilisées et des égouts, à avoir son bureau d'hygiène et pour surveiller son fonctionnement. En outre, l'établissement d'un système de contrôle sanitaire direct dans les territoires non organisés en municipalités.

Les *municipalités* et les services de santé des villes ont pour attribution les questions d'hygiène qui sont d'intérêt local. La municipalité a toujours constitué l'unité administrative en matière de santé publique.⁽⁶⁾

Enfin, des *organismes privés* et indépendants ont été fondés pour promouvoir la santé publique: nous n'avons qu'à nommer la Croix-Rouge, les ligues antituberculeuses, les associations de personnes s'intéressant à une maladie en particulier, les associations médicales et dentaires.

Voilà en quelques mots, l'organisation de la santé publique à tous les niveaux. Tous y sont engagés, du simple individu à la collectivité totale, le monde.

LA SANTÉ DENTAIRE

NOTIONS PRÉLIMINAIRES

Nous ne pouvons parler de santé publique sans parler de santé dentaire, comme nous ne pouvons concevoir santé dentaire sans santé publique. En effet, nous savons que des maladies dentaires peuvent avoir des répercussions sur tout l'organisme, de même que des maladies constitutionnelles peuvent avoir des répercussions sur la dentition. Certains diront que les maladies dentaires ne doivent pas faire partie d'un programme de santé publique parce qu'il n'y a pas de mortalités causées directement par les maladies dentaires. A ceux-là, nous voudrions répondre qu'ils sont dans l'erreur. Quand on considère que plus de 95% de notre population est affligée sous une forme ou une autre de troubles dentaires et connaissant l'effet que peuvent avoir de telles maladies sur le bien-être d'un individu aussi bien physiquement que psychologiquement, nous devons admettre que la santé dentaire est un problème de santé publique.⁽⁷⁾

Mais que devons-nous entendre par santé publique dentaire? L'American Dental Association l'a définie comme étant une science et un art de prévenir et de contrôler les maladies dentaires et de promouvoir la santé dentaire de la communauté.⁽⁸⁾

Le but désiré en santé dentaire publique est donc de prévenir et de contrôler les maladies dentaires et de promouvoir la santé dentaire de la communauté.

HISTORIQUE

Avant de traiter et de développer les objectifs de la santé dentaire publique, il serait intéressant d'en donner un bref historique. La première clinique dentaire a été établie en Allemagne vers 1869. Vers la même époque, des hygiénistes dentaires en Nouvelle-Zélande travaillèrent à promouvoir la santé dentaire. Aux Etats-Unis, les docteurs D.C. Chegale à Cleveland, Ohio, et F. A. Keyes à Boston, Mass., furent des propagandistes de cliniques dentaires pour enfants. Et le premier programme dentaire établi par un service de santé publique eut lieu en Caroline du Nord en 1918.⁽⁹⁾ Enfin, on ne saurait mésestimer l'influence des deux grandes guerres sur le développement de l'hygiène dentaire publique.

RESPONSABILITÉ

Comme nous l'avons dit la santé dentaire est un problème de santé publique, un problème de la collectivité. Il sera donc de la responsabilité des gouvernements et des dentistes eux-mêmes.

Les autorités l'ont compris et c'est pourquoi le gouvernement fédéral encourage par des bourses les recherches dentaires, a organisé un corps dentaire militaire qui pourvoit aux soins dentaires des militaires des forces armées et finalement, sous les auspices du Ministère de la Santé et du Bien-Etre social, pourvoit aux soins dentaires dans le Grand Nord canadien.

Les gouvernements provinciaux ont oeuvré dans le même sens et dans notre province nous ne pouvons que louer l'initiative des unités sanitaires à pourvoir aux soins dentaires des enfants, des indigents et des habitants des régions éloignées.

Enfin les municipalités furent saisies du problème, et, à Montréal, on voit déjà plusieurs cliniques dentaires sous le contrôle du Service de Santé de la ville. De plus, plusieurs municipalités ont compris le rôle du fluor dans les eaux potables et n'ont pas hésité à fluorer leur eau de consommation.

Toutes ces initiatives sont louables et nous ne pouvons qu'en féliciter les autorités.

Mais la personne la plus responsable en santé dentaire publique est sans contredit le dentiste. En raison de sa formation professionnelle, il est plus en mesure de répandre les règles de la santé dentaire. Pour atteindre leur but, les dentistes se sont groupés et nous avons vu naître la Fédération dentaire internationale, et dans notre pays, l'Association dentaire canadienne, qui par ses comités de l'éducation, de publication, de recherches, de bourses, sert la cause de la santé dentaire publique. Enfin dans notre province, notons les associations dentaires régionales et la Ligue d'hygiène de la province de Québec qui font un travail merveilleux du point de vue santé dentaire publique.

RÔLE DU DENTISTE

Faisant nôtres les notions de santé publique et de santé dentaire que nous avons étudiées, en nous basant sur l'objet de la santé publique et de la santé dentaire, nous pouvons maintenant traiter du rôle de la dentisterie en santé publique. Quel est le rôle du dentiste en santé publique? Quel doit être l'objectif d'un programme d'hygiène dentaire? C'est ce à quoi nous voudrions répondre maintenant.

De même qu'un programme de santé publique doit avoir pour objet la santé totale, ainsi le programme de santé dentaire publique devra tendre à donner à l'individu, à la famille et à la collectivité la santé dentaire totale et de là, la santé totale.

Pour y arriver, pour atteindre ce but, le dentiste doit poursuivre plusieurs objectifs, à savoir:

- 1—la prévention des maladies dentaires
- 2—l'éducation du public sur le sujet,
- 3—La recherche qui permettra de découvrir des moyens de prévention et de traitement.
- 4—La correction ou le traitement des désordres dentaires afin d'obtenir un rendement maximum de l'appareil masticatoire.

PRÉVENTION

La meilleure prévention, c'est l'éducation. Mais avant de traiter de l'éducation, il importe de bien connaître les principales méthodes de prévention des maladies dentaires. La dentisterie préventive se doit de faire partie de tout programme de santé dentaire.

La première maladie qu'il faut prévenir est sans contredit la *carie dentaire*. Tout programme de santé publique doit envisager des méthodes qui réduira l'incidence de la carie dentaire par les moyens préventifs à notre disposition. Et c'est le devoir du dentiste de les bien connaître pour pouvoir mieux les appliquer soit à la collectivité, soit à l'individu.

Parmi ceux-ci, nous voudrions étudier la fluoration des eaux potables, les applications topiques du fluor et la diète.

Fluoration des eaux potables

Depuis quelques années, on a redécouvert un produit vieux comme le monde qui enrayer la carie dentaire dans la proportion de 50% à 70%. C'est le fluor.

Il y a une dizaine d'années, des enquêteurs commencèrent à parcourir les Etats-Unis en distribuant des questionnaires aux dentistes et aux responsables de l'hygiène dans un certain nombre de municipalités. Depuis longtemps, l'attention de nombreux médecins, en Europe comme en Amérique, avait été attirée par le fait que les animaux buvant certaines eaux souffraient moins des dents que leurs congénères. Ces eaux bien-faisantes se révélèrent à l'analyse contenir une quantité déterminée de sels de fluor. Vers 1945, le gouvernement américain décida d'étudier la fluoration de l'eau comme moyen de combattre la carie dentaire; les statistiques qui s'accumulèrent tendirent toutes à prouver qu'une dose déterminée de fluor produisait en quelques années des résultats appréciables sans contre-partie fâcheuse.

L'expérience décisive eut lieu quand un groupe de médecins obtint l'autorisation d'ajouter une millionième partie de fluor dans l'eau potable à Newburgh, N.Y., tandis qu'on ne changerait rien à

l'eau d'une ville voisine, Kingston, choisie comme témoin parce qu'elle avait également 30,000 habitants, exerçant des professions semblables et menant le même genre de vie. En une dizaine d'années, on constata chez les enfants de Newburgh qui n'avaient bu que de l'eau traitée, il y avait 58% de moins de caries que chez les enfants du même âge à Kingston.

A Stratford, Ont., depuis au-delà de 36 ans, l'eau est fluorée à l'état naturel (à 1.3 parties de fluorures par 1,000,000 parties d'eau). On n'y trouve en moyenne que 2 dents temporaires cariées chez les enfants de 6 à 8 ans et seulement 3 dents permanentes, chez les enfants de 12 à 14 ans. Un quart (25%) des enfants de 12 à 14 ans n'ont aucune carie.⁽¹⁰⁾

Le dentiste se doit de connaître les effets de la fluoration des eaux, il se doit de combattre toutes les fausses théories à ce sujet et surtout il doit user de toutes son influence pour en faire profiter la communauté. La carie dentaire est actuellement un des plus grands problèmes d'hygiène publique; c'est aussi un problème économique et social. Approximativement 100% de la population en souffre à un moment ou l'autre de la vie. Les statistiques révèlent qu'à 2½ ans, 48% en sont déjà atteints; à 3 ans, 80% et à 5 ans, 98.6%. Il en coûte à la population de Montréal \$4,000,000.00 par année pour les dents et encore à peine rencontre-t-on le quart des besoins. Ces chiffres ne parlent-ils pas par eux-mêmes? Et il en coûterait beaucoup moins cher pour fluorer les eaux.⁽¹¹⁾

"La fluoration est donc une mesure d'hygiène publique. Rendons-lui la part que la nature lui a assignée et les dents pourront mieux jouer le rôle utile dans l'économie."⁽¹²⁾

Et comme le dit Goldstein: "De toutes les mesures de prévention en santé dentaire publique, la fluoration des eaux publiques est peut-être la plus grande nécessité. La fluoration réduira considérablement l'incidence de la carie dentaire. Il est de la responsabilité de chaque dentiste de travailler pour la fluoration des eaux potables dans sa localité."⁽¹³⁾

Application topique de fluor:

Une autre méthode de prévention de la carie, que le dentiste doit connaître et qu'il se doit de faire connaître à la population, est l'application topique de fluor. C'est une méthode efficace, mais qui donne des résultats moindres que la fluoration de l'eau. D'autre part, ce traitement exige quatre visites chez le dentiste et doit être répété tous les trois ans jusqu'à treize ans. Cette mesure est certes plus dispendieuse. Néanmoins, c'est le rôle du dentiste, dans le cadre d'un programme de santé publique, d'en démontrer les avantages et de conseiller aux parents de faire suivre à leurs enfants un tel traitement, surtout aux endroits où l'eau potable n'est pas fluorée. Cependant, cette méthode n'est pas toujours efficace. Les auteurs du livre "Dentistry for Children" tiennent à nous y mettre en garde: "Cependant, ce traitement est efficace seulement quand le fluor est appliqué avec une bonne technique sur l'émail soigneusement nettoyé. Son efficacité n'est pas universelle et tous les enfants ne bénéficient pas de ses avantages. On peut affirmer qu'elle est efficace seulement chez 25% à 40% de la population. On doit aussi indiquer que l'application topique de fluor ne répare pas et ne contrôle pas les caries déjà existantes."⁽¹⁴⁾

Diète:

La diète joue un rôle important dans la prévention de la carie, et ce tout particulièrement chez les enfants et les femmes enceintes. Des notions de diététique et de nutrition sont spécialement importantes dans la pratique de la dentisterie chez les enfants. Le dentiste est en position de connaître les effets d'une mauvaise nutrition sur les structures dentaires. Le contrôle et la prévention de la carie et des maladies périodentaires dépend à un grand degré de la nature, la composition et la consistance de la diète. Il est donc à retenir que les maladies dentaires peuvent être causées ou aggravées par une diète déficiente et dans certains cas ne peuvent être traitées avec succès, si la condition nutritionnelle défectueuse n'a pas été re-

connue et corrigée. La diète agit sur l'organe dentaire d'une double façon : systématiquement et localement. Nous comprendrons mieux par le schéma⁽¹⁵⁾.

Le dentiste, en conseillant une diète, doit connaître ce mécanisme. De plus, il a la responsabilité d'envisager la santé générale de son patient. De bonnes conditions nutritionnelles, essentielles au développement d'un corps sain et de dents saines, doivent être obtenues et maintenues par l'usage d'une diète qui soit adéquate. Il est important, en conseillant une diète, de se rappeler qu'elle doit tenir compte de la santé générale et dentaire de l'individu⁽¹⁶⁾.

De plus, la prévention par une bonne diète des maladies dentaires doit commencer même avant la naissance. Il est du devoir du dentiste de conseiller aux mères enceintes de prendre un supplément constant de matériaux de construction dans son intérêt et dans celui de l'enfant qui naîtra d'elle. C'est en effet dans son sein que débutera la calcification des dents.

Il est donc de la responsabilité du dentiste de connaître les effets de la diète sur la dentition et il est de son rôle en regard d'un programme de prévention des maladies dentaires d'en faire profiter le public et plus particulièrement les enfants et les mères enceintes.

Nous avons traité de la prévention des maladies des tissus durs de la cavité buccale, envisageons maintenant la prévention des *maladies des tissus mous*. En effet, ces maladies sont de plus en plus la cause de désordres buccaux et de la chute précoce des dents. Dummet écrivait : "Il y a environ 75% de la population des Etats-Unis qui a besoin de soins des tissus péri-dentaires. C'est un problème majeur. Certaines formes de ces maladies sont communes à toute la population. Cette généralité fait de la maladie un problème de santé publique. La prévention des maladies péri-dentaires et la conservation de la santé du périodontium sont deux des plus importants problèmes de la périodontie, en regard de la santé publique."⁽¹⁷⁾

Par un diagnostic précoce, par des

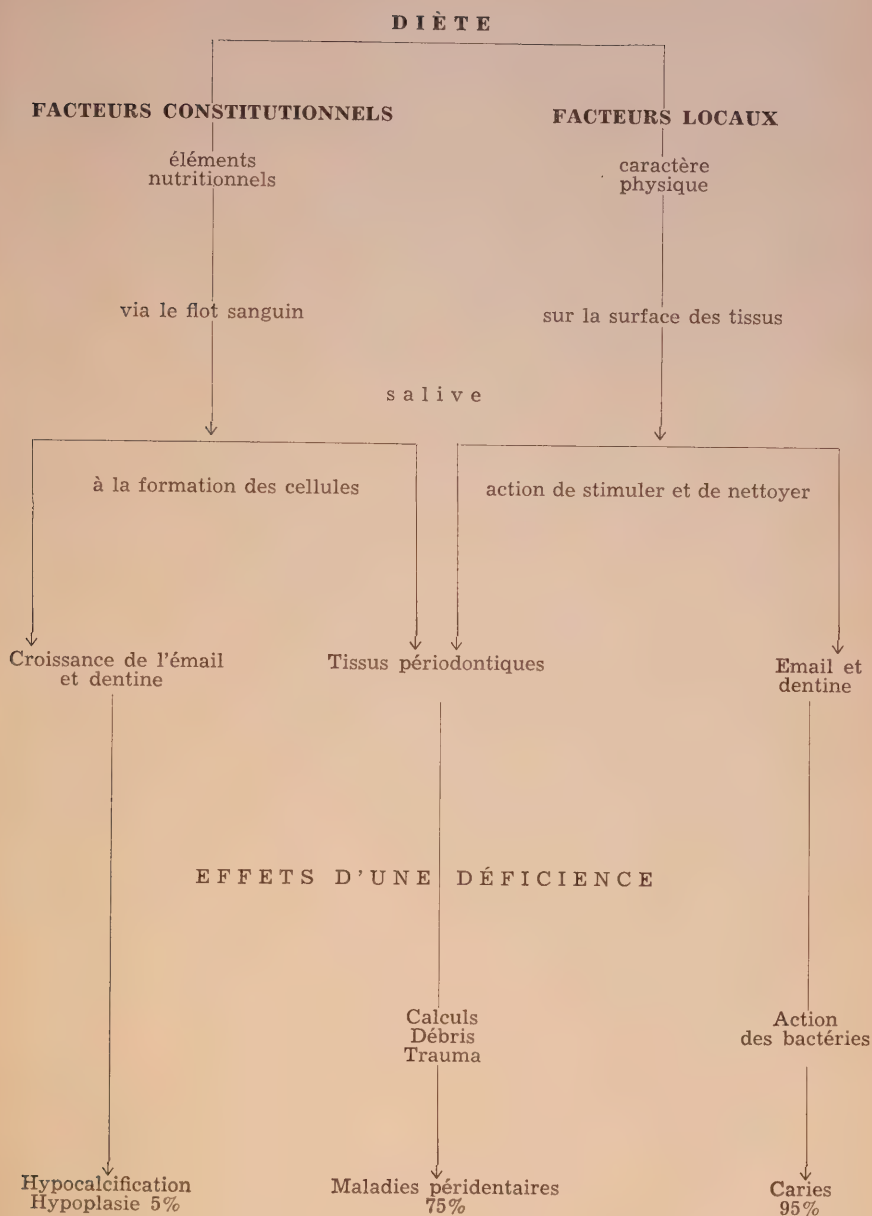
traitements adéquats, le dentiste contribuera à diminuer l'incidence des maladies périodontales. Il se doit donc d'être à l'avant-garde et, par ses services, il contribuera à conserver l'intégrité des tissus mous de la bouche.

Comme nous l'avons vu, la carie dentaire, les troubles des tissus mous sont des maladies qui ont leur importance et qui intéressent la santé publique. Et tout programme de santé publique, pour être adéquat, exige que tous les dentistes mettent en œuvre toutes les mesures qui en diminueront l'incidence et contribueront ainsi à conserver la santé totale. Nous avons étudié les principales mesures de prévention, mais, comme le dit Goldstein, il ne faudrait pas ignorer d'autre part des mesures préventives comme le brossage quotidien des dents et d'autres méthodes d'hygiène buccale. Et il poursuit en disant qu'il est de la responsabilité du dentiste et des sociétés dentaires locales de déterminer comment un programme de santé dentaire préventive peut être intensifié dans leur milieu.⁽¹⁸⁾

Education

Comme nous l'avons dit, la plus grande prévention, c'est l'éducation. Nous avons étudié les principales méthodes pour prévenir les troubles dentaires; une fois ceci acquis, il faut trouver des moyens pour les faire accepter à la communauté. Les dentistes y parviendront par une éducation adéquate, bien dirigée. Sur quoi portera un tel programme ? Sur tout ce que nous avons étudié au chapitre de la prévention. Vers qui le dentiste doit-il diriger son éducation ? C'est ce que nous verrons dans le présent chapitre.

Stoll écrit : "L'éducation de la santé dentaire est l'un des départements de la santé les plus négligés. Des nombreux programmes d'éducation, certains ont donné d'excellents résultats, mais plus de travail est nécessaire. Parce que les maux dentaires sont universels et parce que des moyens infaillibles de prévention n'ont pas encore été trouvés, la protection de la santé devient un problème de tout programme de santé."⁽¹⁹⁾



Pour qu'une éducation dentaire soit efficace, pour qu'elle puisse satisfaire pleinement un programme de santé publique, elle doit atteindre toutes les classes de la population. En premier lieu, on doit pourvoir à l'éducation dentaire des futurs dentistes. Ceux qui demain seront à l'avant-garde de la profession dentaire doivent être instruits de la santé dentaire, de la santé publique, des mesures d'hygiène qu'ils auront à prêcher dans un avenir rapproché. En second lieu, ceux sur lesquels le dentiste aura le plus d'influence seront ses patients. En troisième lieu, le dentiste devra éduquer le public en général. Enfin, le dentiste lui-même devra faire sa propre éducation. Voilà les points que nous voudrions développer dans le chapitre de l'éducation.

Educación de l'étudiant dentaire

Si nous voulons que demain le dentiste puisse être un professionnel qui soit intéressé à la santé publique, on doit dès ses années d'étude, l'instruire de la santé publique, de son importance, de ses responsabilités, l'habituer à traiter non pas une dent, mais une personne. On doit l'habituer, dès ses premières expériences cliniques, à voir dans un patient une personne malade, dont le mal peut avoir des répercussions sur tout son être et il doit prodiguer ses soins en ayant en vue cette vérité.

De plus, il est du devoir du dentiste d'encourager les jeunes à suivre cette profession. Il doit savoir en faire valoir les avantages, la nécessité pour conserver la santé. Et comme le dit Wylie: "Le facteur le plus important pour encourager les jeunes à joindre la profession dentaire, est le contact personnel, soit au cabinet dentaire, soit ailleurs. Ces rencontres aideront à impressionner les jeunes gens sur les avantages de la dentisterie."⁽²⁰⁾ Et McIntyre d'ajouter: "Le dentiste devrait savoir qu'il est de sa responsabilité dans un service de santé d'inspirer l'étudiant dentaire. Où ailleurs l'étudiant recevra-t-il son initiation à la conduite professionnelle et à ses obligations, si ce n'est à la faculté dentaire."⁽²¹⁾

Educación du patient

En second lieu, il est de la responsabilité du dentiste d'instruire ses patients sur la santé dentaire, sur la santé publique. Peut-être que c'est dans son cabinet dentaire que le dentiste a le plus d'influence. Il est avec son patient, il le connaît, il doit donc en profiter pour lui inculquer les notions élémentaires de santé dentaire. Pendant que le patient est assis à la chaise dentaire, le dentiste a une excellente occasion de présenter le message du service de santé⁽²²⁾. Le patient est dans l'ambiance. Le bureau dentaire, son personnel, ses traitements, devraient stimuler le dentiste à prendre avantage de cette ambiance. En éduquant ses patients, le dentiste jouera un très grand rôle en santé publique. Et ce sera probablement avec ses patients qu'il aura le plus d'influence.

Educación du public

Le dentiste travaille dans un milieu, dans une communauté. Il est de son devoir et de son rôle, d'instruire ses concitoyens sur la santé dentaire, sur sa nécessité en santé publique. Et comme le travail de prévention est de la responsabilité de ceux qui ont la charge de jeunes enfants, c'est-à-dire des mères de famille, des instituteurs et institutrices, religieux et laïques, des garde-malades, les dentistes devront s'adresser de préférence à ces adultes. C'est son but de convaincre les adultes qui ont la responsabilité de jeunes enfants, de la nécessité de la prévention des maladies dentaires et de leur enseigner les moyens les plus simples et les plus efficaces de la réaliser. Il y arrivera par le truchement de conférences, grâce encore par des causeries à la radio et à la télévision, enfin par des articles dans les journaux⁽²³⁾.

De plus, le dentiste devra s'appliquer à renseigner les étudiants d'école normale, les instituteurs, les infirmières étudiantes et diplômées, toutes gens dont les intérêts et les services auront la plus profonde influence sur la manière de voir de la population enfantine ainsi que sur celle de leurs jeunes parents. En un mot à tous

ceux et à toutes celles qui auront demain la charge eux-mêmes de l'enseignement et de la formation des jeunes générations⁽²²⁾.

Enfin le dentiste, de concert avec les autorités médicales et scolaires, doit encourager la tenue d'examen dentaire chez les écoliers, il doit les instruire de l'hygiène dentaire. Voilà un champ largement ouvert à la préoccupation d'un vrai dentiste. A l'école, s'épanouissent les talents; à l'école aussi s'intensifient les déficiences du bas âge, et en particulier la carie dentaire. Affronter le problème n'est pas le résoudre et nous croyons que dans ce domaine le travail du dentiste est superficiel et reste inachevé. Les fiches dentaires scolaires s'entassent par milliers dans les classeurs, elles y dorment d'un tel calme et si longtemps que les élastiques les enserrant, classe par classe ne résistent plus à l'usure du temps. Pour que son travail soit efficace, il doit contacter les parents et les éducateurs. Il doit les instruire et s'efforcer de les convaincre de faire traiter leurs enfants, leurs élèves. Il doit leur enseigner les méthodes de prophylaxie pour que ces derniers en fassent profiter leurs enfants, il doit leur faire comprendre la nécessité de traitements immédiats.

Eduquer la population, à tous les niveaux, sur la santé dentaire, l'instruire des méthodes de prévention, de prophylaxie et de traitements voilà l'ambition que devrait avoir tout dentiste. Ainsi il sera au service de l'intérêt public en conservant la santé dentaire et de ce fait promouvra la santé totale. Ici nous ne pouvons que louer le travail merveilleux que font les dentistes hygiénistes. Et tout dentiste devrait encourager leur travail et collaborer pleinement avec eux de toutes leurs forces.

Education du dentiste

La responsabilité du dentiste en santé publique est grande. Il doit être un exemple et une source d'enrichissement pour ses futurs confrères, il doit être l'éducateur du public sur la santé dentaire et il

doit être pour ses patients l'homme de confiance en qui l'on aura foi. Mais pour qu'il puisse remplir pleinement son rôle d'éducateur, il doit être avant tout son propre éducateur, c'est-à-dire qu'il ne doit jamais se lasser de perfectionner sa culture professionnelle. C'est G. V. Black qui disait : "The professional man has no right to be other than a continuous student." Pour y arriver, il se doit de se tenir au courant de tous les nouveaux développements de sa science pour pouvoir en faire profiter ceux dont il a la responsabilité directe ou indirecte. Il doit avoir l'esprit en éveil, il se doit d'assister aux conférences, lire les revues de santé publique et dentaire, il doit s'inscrire à des cours de perfectionnement aussi souvent qu'il le peut. Goldstein écrit à ce sujet : "En regard de la santé publique, le dentiste a la responsabilité de continuer sa propre éducation, comme il est de son devoir de faire profiter de ses connaissances ses propres collègues. En outre, l'éducation dentaire peut être enrichie de diverses manières: assistance aux réunions et congrès dentaires, lecture des diverses revues dentaires. De plus, le dentiste ne doit jamais oublier ses obligations envers les écoles dentaires, soit financièrement ou autrement. Il doit tirer profit des cours post-scolaires et des séminaires et continuer de fréquenter les librairies dentaires. Les bibliothèques sont à l'usage des étudiants et chaque dentiste devrait être un étudiant. Il ne doit être jamais satisfait de sa science."⁽²⁴⁾

En un mot, il est du devoir du dentiste de se tenir au courant de tout ce qui se fait en science dentaire pour pouvoir en faire profiter ceux qui sont sous sa responsabilité et ainsi contribuer à réaliser les objectifs de la santé publique.

RECHERCHES

Mais l'une des responsabilités les plus importantes que nous sommes souvent portés à mésestimer dans un service de santé est celle de la recherche. Le rôle du dentiste face à la recherche est important. De constantes recherches doivent être

faites, soit pour trouver des méthodes plus effectives pour prévenir et traiter les désordres de la bouche, soit pour trouver des moyens pour développer ou enrichir les connaissances, soit pour découvrir de nouveaux critères pour mieux évaluer les programmes déjà existants⁽²⁵⁾.

Des études périodiques et constantes sur les besoins dentaires, une évaluation des programmes de santé sont donc nécessaires. C'est une nécessité que de faire des recherches pour étudier des mesures préventives et curatives. Un programme coordonné de recherche sur l'étiologie, la pathologie, l'épidémiologie de la carie et des maladies périodentaires est une autre nécessité⁽²⁶⁾.

Le dentiste se doit de participer aussi activement que possible au programme de recherches dentaires; s'il ne le peut activement, il doit les encourager.

Mais la recherche coûte cher; un dentiste seul ne peut résoudre le problème. Il se doit alors de participer au programme de recherche de son association. Au Canada, l'Association dentaire canadienne a compris le problème et elle a fondé un Comité de Recherche qui encourage par ses dons la recherche dentaire. Mais nous croyons que les gouvernements, étant donné que c'est dans l'intérêt public, devraient faire plus sur ce point. Ils ne devraient pas hésiter à distribuer des bourses d'étude pour permettre à des dentistes aimant la recherche de poursuivre leur idéal. "Le temps est maintenant passé où une nation aussi importante que la nôtre, peut aveuglément juger comme sans importance, des désordres qui affectent au moins 98% de la population."⁽²⁷⁾

Pour que les gouvernements le comprennent et le réalisent, les membres de la profession dentaire doivent les y aider.

TRAITEMENT

Nous avons vu que le dentiste, face à un programme de santé publique, se devait de répandre les méthodes de prévention des maladies dentaires, d'éduquer le public, de participer et d'encourager les

recherches dentaires. Mais son rôle ne s'arrête pas là. Une quatrième responsabilité qui est sienne est le traitement. Et ce traitement doit être préventif, éducatif et correcteur.

En nous référant à la définition de la santé, il est évident qu'un individu ne peut jouir d'un état de complet bien-être physique, mental et social, si sa bouche est malade et esthétiquement déplaisante. Ainsi une personne souffrant de caries rampantes et ayant perdu ses dents antérieures ne peut participer à de bonnes relations sociales et avoir une sécurité psychique⁽²⁸⁾.

Il sera donc du devoir du dentiste de corriger le mal par des traitements adéquats. A qui devra-t-il appliquer ses traitements? A ses propres patients d'abord, puis aux enfants d'âge pré-scolaire et scolaire, enfin aux indigents.

Aux *patients* qui forment la clientèle de tel ou tel dentiste, le problème est moindre. Dans ces cas, le dentiste lui-même saura adapter à son patient les traitements et saura les faire accepter à ses patients. Et comme le dit le code d'éthique professionnelle: "tout patient mérite un examen attentif. Le dentiste doit le renseigner afin qu'il réalise ses besoins et comprenne le pourquoi de tel ou tel traitement. Comme nous sommes généralement l'unique juge de notre travail, insistons donc avec bonté, mais aussi avec fermeté, pour n'exécuter que ce que nous savons être dans le meilleur intérêt de ceux qui nous confient le soin de leur bouche."

En second lieu, le dentiste devra appliquer ses traitements aux *enfants d'âge pré-scolaire et scolaire*. En effet, la carie dentaire, la malocclusion et les maladies des gencives proviennent en grande partie de la négligence au cours de l'enfance. Ce qu'on ne peut empêcher peut et doit être corrigé par un prompt traitement.

La carie dentaire frappe surtout durant l'enfance et l'adolescence. Elle se prévient de trois manières: en enseignant aux enfants les bonnes habitudes alimentaires et en diminuant la quantité et la fréquence

des sucreries; en montrant aux enfants à se nettoyer les dents aussitôt après avoir mangé; en tirant parti des mesures préventives scientifiques comme la fluoration de l'eau et l'application de fluorures aux dents.

Probablement le meilleur moyen d'empêcher la malocclusion est de prévenir la perte prématurée des premières dents. Grâce aux rayons-X, le dentiste peut découvrir la carie quand les cavités sont encore minuscules et faciles à traiter. Il peut découvrir l'irrégularité possible bien avant l'éruption des dents.

La prévention des maux de gencives, cause de la plupart des pertes de dents chez l'adulte, commence aussi durant l'enfance. Une bonne alimentation importe pour garder sains les gencives et les tissus qui maintiennent les dents. On prévient le mieux les maladies des gencives en protégeant les dents contre la carie, la perte prématurée et l'irrégularité et en assurant la propreté des dents et des gencives⁽²⁹⁾.

La carie se produit malgré tous les efforts préventifs et éducationnels, mais il n'est nullement nécessaire de perdre une dent par carie. Il est de la responsabilité de la profession dentaire de donner des traitements prompts et réguliers qui permettront de découvrir les cavités et de les obturer dès le début. De plus, il devra prévenir les malocclusions en essayant de sauver la dent de six ans et en fabriquant des appareils de maintien.

Ainsi par des traitements efficaces, la carie sera contrôlée, les malocclusions corrigées, les maux des gencives moindres et l'enfant conservera toutes ses dents en bon état. Voilà pourquoi un traitement précoce d'éducation de prévention et de correction est si important chez les enfants.

Enfin, un programme de santé publique ne devrait ignorer le traitement dentaire des *indigents* et de ceux qui ne peuvent recevoir des traitements dentaires, parce qu'ils sont impotents, financièrement insolubles, ou inacceptables comme patients attendant dans une salle d'attente. Il est évident que le problème est grave⁽³⁰⁾.

Ces personnes sont des malades. La profession dentaire n'a pas le droit de les ignorer. Ils ont droit aux services de santé publique comme leurs concitoyens. Il est donc du devoir du dentiste de référer ces patients aux services de santé publique où ils pourront recevoir des soins adéquats. La plupart des grands hôpitaux possèdent de telles cliniques, les services de santé des grandes villes ont organisé des cliniques dentaires publiques. Au dentiste revient le devoir de renseigner ces gens et de les encourager à se faire traiter dans de telles cliniques.

Enfin, dans notre province, l'unité sanitaire a établi des cliniques dentaires mobiles où de tels patients peuvent se faire traiter.

Il est aussi de la responsabilité du dentiste de voir à ce que des facilités cliniques soient possibles. Il est essentiel de pourvoir à des services complets dans les cliniques. Pour ce, des fonds doivent être obtenus des particuliers, du public, des gouvernements et des organisations sociales⁽³¹⁾.

Enfin aujourd'hui, on parle de plus en plus d'assurance-santé, d'assurance dentaire. Serait-ce un bon moyen de résoudre le problème? Il est encore trop tôt pour y répondre. Mais tous les moyens qui seront pris pour permettre à tous les individus de recevoir des soins dentaires adéquats ne seront que louables.

La profession dentaire et le cancer

Le rôle du dentiste en santé publique est donc d'une très grande importance. Comme nous l'avons vu, il sera à la fois préventif, éducationnel, correctionnel et de recherche. Mais il serait intéressant d'étudier le rôle du dentiste face au problème du cancer. Sa responsabilité dans ce domaine est d'une extrême importance vu la malignité de la maladie. Des autorités sur le cancer estiment que 5% de tous les cancers mortels se produisent dans ou autour de la bouche et que 15% des cas mortels surviennent à la tête et autour.

Ces tumeurs constituent non seulement une maladie grave pour le malade, mais

aussi, en raison de leur localisation dans les cavités naturelles de la face et de la tête, sont facilement accessibles à l'observation et par conséquent, rendent un diagnostic précoce possible. Mais l'ignorance des médecins et des dentistes qu'une simple ulcération de la bouche puisse être un cancer chez un malade, par ailleurs bien portant, peut avoir des conséquences fatales. Ils diront qu'une petite ulcération du palais ou de la gencive est due à une prothèse ou encore à une infection dentaire et laisseront partir le patient sous cette fausse impression.

Il est de la responsabilité du dentiste d'être sur le qui-vive. Et comme l'a dit Voyer : "Il n'y en a pas un qui soit dans une meilleure position pour diagnostiquer les signes d'un début de cancer que vous les dentistes. Approximativement plus d'un millier de vous messieurs, regardez dans la bouche de milliers de patients chaque jour, et ceux qui parmi vous suspectent une lésion maligne dans ou autour de la bouche et réfèrent de tels patients à un centre de cancer pour un diagnostic, rendent un service vital."⁽³²⁾

En effet, selon le tableau suivant, on peut voir le pourcentage de patients souffrant d'un cancer de la bouche qui consulte un dentiste avant un médecin⁽³³⁾.

Endroit du cancer	Total des patients interrogés	Pourcentage approximatif des patients consultant un dentiste avant un médecin
gencive	114	65%
palais	106	45%
langue	139	35%
muqueuse de la joue	113	35%
plancher de la bouche	125	27%

La vie d'un homme peut être sauvée par le diagnostic précoce d'un dentiste. C'est une grande responsabilité et le dentiste doit prendre tous les moyens pour en être digne. En effet "la prompte découverte et le prompt traitement de cette maladie sont

d'une extrême importance. Au moins huit sur dix morts causées par le cancer de la bouche auraient pu être prévenues si le mal avait été traité au début. Le prompt traitement des tumeurs malignes de la bouche sauve des vies et empêche d'être défiguré."⁽³⁴⁾

D'autre part, quand un traitement exige la mutilation d'une partie de la figure d'un individu, en plus d'un problème thérapeutique, ceci devient un problème social de réhabilitation. Il convient donc de leur apporter un support moral et un essai de réhabilitation. Au dentiste, spécialiste en prothèse, reviendra la responsabilité de fabriquer des obturateurs qui redonneront à ces malades l'espoir de continuer à vivre dans une société, non pas comme des réprouvés mais comme des citoyens normaux.

CONCLUSIONS

La responsabilité de la profession dentaire en santé publique est grande. Les quatre grandes responsabilités du dentiste en santé publique sont la prévention, l'éducation, la recherche et le traitement.

Il est heureux de constater que de nos jours, les dentistes sont de plus en plus conscients de leur rôle, que la santé dentaire préoccupe de plus en plus la population. Mais, il y a encore beaucoup à faire. Les recherches dentaires devraient être intensifiées, pour connaître mieux les diverses manifestations pathologiques de la cavité buccale, enfin de pouvoir mieux les prévenir et les traiter; des méthodes de prophylaxie et de traitements plus adéquats devraient être mis à point; l'éducation devrait être intensifiée, surtout dans les régions rurales.

Aux dentistes d'aujourd'hui revient la tâche de poursuivre le travail commencé pour le plus grand bien de la communauté.

Ainsi le dentiste servira mieux la société comme membre de l'équipe de santé. Par une meilleure santé dentaire, l'individu, la famille et la collectivité atteindront un plus haut degré d'efficacité physique, mental et social.

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Nouvelles du Corps Dentaire Royal Canadien

Le brigadier Baird rend visite aux chefs des Services dentaires américains

Le brigadier K. M. Baird, directeur général des Services dentaires, s'est rendu à Washington, D.C., en avril, dans le but de conférer avec les chefs des U. S. Navy, Army and Air Force Dental Corps.

Le colonel Shillington inspecte le C.D.R.C. (Milice)

Le colonel G. B. Shillington, D.D.G.D.S. a inspecté récemment un certain nombre d'unités du C.D.R.C. (M) relativement au concours de compétence générale (Milice). Les unités qui participent au concours de cette année sont les suivantes: le 50^e Unité dentaire, Halifax (N.-É.), commandée par le lt-col. G. C. MacLeod; la 51^e Unité dentaire, Saint-Jean (N.-B.) commandée par le lt-col. G. L. Ramsay; la 54^e Unité dentaire, Ottawa (Ont.), commandée par le lt-col. H. J. Chartrand; la 55^e Unité dentaire, London (Ont.), commandée par le lt-col. A. J. Harris; la 56^e Unité dentaire, Toronto (Ont.), commandée par le lt-col. A. Z. Henry; la 59^e Unité dentaire, Calgary (Alb.), commandée par le

lt-col. D. L. Thompson; la 60^e Unité dentaire, Edmonton (Alb.), commandée par le lt-col. A. D. Fee; et la 61^e Unité dentaire, Vancouver (C.-B.), commandée par le lt-col. F. K. Currie. Les résultats de ce concours seront annoncés à une date ultérieure.

Le lt-col. W. M. Sinclair prend sa retraite

Le Quartier général de l'Armée a annoncé que le lt-col. W. M. Sinclair, commandant de la 12^e Compagnie dentaire et officier dentaire de Région de la Région militaire de l'Est, a pris sa retraite.

Le lt-col. Sinclair est né au Mexique et a reçu sa formation professionnelle en Angleterre, recevant le grade de L.D.S.R.C.S., Eng. en 1930 et un B.D.S., en 1931. Il a eu une carrière variée et intéressante, tant dans la vie civile que dans la vie militaire. Avant de commencer son service dans les Forces canadiennes, en 1940, avec le Irish Regiment of Canada, il a fait partie du personnel de la Eastman Dental Clinic, à Londres, et de la Dundee Dental Infirmary. En 1943, il est muté au C.D.C. et employé à Halifax pour la durée de la guerre. Il sert après la guerre

dans les Régions militaires du Centre et de l'Est, tant comme instructeur en chirurgie buccale à l'École du C.D.R.C. que comme commandant de l'Unité dentaire, en Corée. Sa spécialité est la chirurgie buccale et il est l'auteur de nombreux articles à ce sujet.

Tous les membres du Corps souhaitent au lt-col. Sinclair tout le succès possible dans la vie civile, au Manitoba.

Le lt-col. Roger est nommé commandant de la 12^e Compagne dentaire

Le lt-col. A. T. Roger, d'Ottawa, a été nommé successeur du lt-col. Sinclair, au poste de commandant de la 12^e Compagnie dentaire et d'officier dentaires de Région de la Région militaire de l'Est, à Halifax (N.-É.).

Le lt-col. Roger est né à Hamilton, mais il a fait ses premières études à Ottawa et a reçu son diplôme de l'Université de Toronto, en 1937. En 1939, il est affecté au Corps dentaire et se rend outre-mer, en 1941, où il travaille pendant quelques années avec l'équipe préposée aux traitements maxillo-faciaux au Basingstoke Neurological Hospital. Après la démobilisation, en 1945, il remplit un emploi au ministère des Affaires des Anciens Combattants, mais il est affecté de nouveau au C.D.R.C., en 1951, et sert à Rockcliffe jusqu'à sa nomination comme membre du personnel de l'École du C.D.R.C. à titre d'instructeur en chirurgie buccale, en 1953, et en 1959, il est nommé instructeur en chef. Le lt-col. Roger est marié et père de deux enfants.

Promotions

On a annoncé récemment que le major J. W. Turner avait été promu au grade de lieutenant-colonel, et que les capitaines H. E. McKenna et H. G. Bunston avaient été promus au grade de major.

Le lt-col. Turner est né à Toronto. Il fait ses études secondaires au Niagara Falls Collegiate et ses études universitaires à l'Université de Toronto, où il reçoit son diplôme en 1945. La même année, il est affecté au Corps et sert en divers endroits dans les Régions militaires de l'Ouest et des Prairies, de même qu'en Allemagne et en mer sur l'"Ontario." Il exerce actuellement son em-

ploi à la caserne Currie et réside à Calgary avec son épouse et ses quatre enfants.

Le major McKenna, natif de Sherbrooke, a fait ses études en art dentaire à l'Université de Toronto, où il recevait son diplôme en 1941. En 1949, il reçoit de la même université un grade de D.D.P.H. Il s'enrôle dans le C.D.R.C., en 1951, à Saint-Jean (Terre-Neuve) et il sert en Corée et dans les Régions militaires de l'Ouest ou du Québec. Il est actuellement stationné à Québec.

Né à Brandon (Manitoba), le major Bunston est un des diplômés de l'Université McGill, en 1952. Après avoir reçu son diplôme et son grade de capitaine, il sert dans les Régions militaires du Québec et du Centre jusqu'en juillet 1958, date à laquelle il se rend outre-mer pour accompagner son unité actuelle, la 35^e Unité dentaire de campagne, en France. Le major Bunston est marié et père de trois enfants.

Cours

Les officiers dentistes ci-après ont suivi récemment des cours post-universitaires. Ce sont:

Le major J. C. Brick, Direction des Services dentaires, à Ottawa—un cours sur les soins à donner en cas de pertes en masse, à la U. S. Naval Dental School, à Bethesda, Maryland.

Le major E. D. Fraser, de Montréal—un cours sur le matériel à grande vitesse, à la U. S. Navy Dental School, Bethesda, Maryland.

Décès du capitaine J. E. MacNeilly

C'est avec regret que le C.D.R.C. a annoncé le décès soudain du capitaine J. E. MacNeilly, survenu le 11 avril, au Camp Borden (Ont.). Né à Montréal, en 1927, il s'enrôle dans l'Armée canadienne sous le régime du Programme d'instruction pour la formation d'officiers des forces régulières, en 1954, et quand il reçoit son diplôme de l'Université Dalhousie, en 1957, il est nommé sous-lieutenant, puis promu capitaine et affecté à la Région militaire de l'Est. En février 1958, il est nommé à la Station de l'ARC, à Camp Borden, où il exerçait son emploi au moment de son décès. Il laisse dans le deuil son épouse.

Nouvelles de l'Association

Une commission en Angleterre présente son rapport sur les honoraires des médecins et des dentistes

La Commission royale des Honoraires des Médecins et des Dentistes, nommée le 27 mars 1957 sous les auspices des Services Nationaux de Santé d'Angleterre, vient de présenter son rapport. Cette commission avait comme mission d'établir des parallèles entre la rémunération des médecins et des dentistes et celle des autres corps professionnels dans le but de créer des taux convenables de rémunération. Elle devait aussi suggérer des moyens pour tenir toujours à date ces comparaisons.

La commission a recommandé que pour le moment, on n'apporte pas de modification aux honoraires actuellement versés pour les traitements dentaires tels que déterminés; elle a suggéré de créer un comité permanent formé de dentistes, de représentants des services de santé et d'experts en chronométrage pour étudier la question des taux pour des traitements dentaires. Le groupe établirait la moyenne du temps exigé pour chacune des opérations du dentiste et déterminerait la moyenne, par année, de jours ouvrables. Ainsi le comité calculerait une nouvelle échelle d'honoraires bruts de façon à ce qu'un dentiste travaillant durant un nombre moyen de jours par année gagne 2500 livres. Cette nouvelle rémunération, commençant le 1er janvier 1960, s'appliquerait pour une durée de trois ans.

On a augmenté la rémunération des médecins avec effet rétroactif, mais une demande semblable pour les dentistes de famille a été refusée. On a souligné le fait que, quoique le dentiste avait des revenus trop modiques quand le comité a été formé, il a depuis bénéficié d'une augmentation nette de 5% et de 4% de ses honoraires. Les revenus des dentistes ont augmenté davantage que ceux des autres professions (ceux des médecins, en proportion, ont moins augmenté), mais, en fin de compte, ils étaient supérieurs à ceux des médecins.

Le nombre des nouveaux dentistes commençant à exercer est selon les normes du Service National de Santé le dénominateur qui fixe le salaire annuel des membres de la profession dentaire. On a toutefois cru que l'accroissement de la rémunération ne corrigerait pas la pénurie du nombre des dentistes, parce que les écoles dentaires sont actuellement remplies à capacité. Le comité n'a pas pu prouver que l'immigration des médecins et des dentistes est plus con-

sidérable que celle de la population en général.

Les récriminations du dentiste anglais ont été plus fortes dans le passé parce qu'il craignait que, par la seule volonté du gouvernement, ses honoraires pouvaient être réduits à n'importe quel moment d'une façon arbitraire. Le comité, pour obvier à cette possibilité, a suggéré au gouvernement d'établir après consultation avec les professions, un organisme composé de sept membres dont la fonction serait de surveiller les honoraires. Cet organisme, qui ne compterait ni médecin, ni dentiste, informerait le premier ministre de la rémunération des médecins et des dentistes; il serait constitué pour au moins trois ans. Cet organisme nommé le Groupe d'Etude des Honoraires dentaires continuerait à surveiller le temps exigé pour les traitements dentaires et, en l'occurrence d'une modification du revenu net des dentistes, il aurait ainsi à sa disposition des normes qui lui serviraient à établir une nouvelle échelle d'honoraires.

Le seul memorandum discordant, qui s'opposait à diverses clauses du rapport, approuvait toutes les conclusions et les recommandations au sujet des dentistes.

Augmentation des dépenses pour la santé d'une famille

La moyenne des dépenses faites pour la santé d'une famille aux Etats-Unis a augmenté de 4.6% qu'elles étaient, en 1953, à 5.6%, en 1958. Chacun des dollars dépensés pour la santé personnelle en 1957-1958 comprenait 15 cents pour les traitements dentaires (en comparaison de 16 cents en 1952-1953). Ces chiffres et ceux qui suivent font partie d'un rapport qui a été publié par la Fondation des Renseignements sur la Santé à la suite d'une enquête entreprise sur les déboursés effectués aux Etats-Unis par la moyenne des familles pour des traitements médicaux et pour des primes d'assurances de santé.

Médecin	34 cents
Hôpital	23 "
Médicaments et médication	20 "
Dentiste	15 "
Autres items et services médicaux	8 "

Total 1 dollar

Les sommes dépensées pour des traitements dentaires par chaque individu sur une période de cinq ans, de 1953 à 1958, ont augmenté de dix à 14 dollars. Ces dépenses s'établissent comme suit, en rapport avec l'âge et le sexe:

Total	14 dollars
moins de 6 ans	1 "
6-17	14 "
18-34	17 "
35-54	19 "
55-64	15 "
65 et plus	10 "
hommes	12 "
femmes	16 "

Les dentistes ont compté pour peu dans les dépenses faites pour ces enfants en bas de six ans (2 cents par dollar dépensé pour le soin médical). Ils comptent davantage dans les dépenses faites par les personnes de 65 ans et plus (5 cents). Les déboursés pour des traitements dentaires diminuent avec l'âge, après 35 ans, contrairement à ce qui se produit pour les autres services de santé. Les âges entre 6 et 17 ans comptent pour beaucoup en fait de services dentaires dans le total des argents dépensés pour la santé (14 dollars sur 49 dollars). On calcule qu'une plus grande partie de l'augmentation des dépenses pour des traitements dentaires est plutôt due à des traitements plus fréquents (24.7%) qu'à des traitements plus dispendieux (12.3%).

Brosse à dents électrique

La livraison de mars du "Canadian Business" rapporte l'invention d'un nouveau genre de brosse à dents actionnée à l'électricité. Un mécanisme imprime à la brosse un mouvement d'oscillation qui lui permet de nettoyer les dents plus facilement, en la plaçant dans une position parallèle aux espaces interdentaires plutôt qu'en position perpendiculaire. Cette nouvelle brosse comporte aussi un dispositif qui permet de l'ajuster à la main pour l'adapter à sa vitesse d'oscillation.

Le public vote en faveur des techniciens

Un référendum tenu à Zurich, Suisse, a permis à la population de se prononcer en faveur des techniciens qui demandaient le droit d'exercer directement auprès d'elle.

Le vote, qui a été pris le 3 avril 1960, favorisait les techniciens dans une proportion de 98,000 à 58,000, pour qu'ils confectionnent directement pour le public les pièces de prothèse amovibles.

Les "denturistes" tentent dans l'Etat de Washington, D.C., d'obtenir 100,000 signatures pour une pétition demandant la tenue d'un référendum pour leur permettre de transiger directement avec le public.

Rapport d'une campagne de recrutement

Les résultats d'une petite enquête montrent que les étudiants des collèges qui désirent obtenir des renseignements sur la carrière de dentiste sont en avant-dernière année ou en dernière année de leur cours.

Un groupe de firmes commerciales de distribution de marchandises dentaires avait fait

paraître une page complète sur la carrière de dentiste dans une livraison récente du Canadian High News. Le CHN publie, tous les ans, un supplément sur les diverses carrières ouvertes aux étudiants. Ce supplément, distribué par tout le Canada, avait une circulation de 100,000 copies. La page consacrée à la dentisterie renfermait un coupon qui pouvait être posté à l'Association dentaire canadienne pour obtenir une copie du fascicule "La carrière de dentiste." Les tableaux suivants sont tirés d'une analyse des premiers cent coupons reçus au Bureau des Renseignements au Public de l'A.D.C.

Provenance des demandes

		% des demandes
Classe	9	10
	10	13
	11	23
	12	33
	13	8
Université		5
Autres		8
		100%

Origine par provinces

Circulation du CHN		Réponses
1.5%	T.-N.	1%
.9	I.-P.-E.	...
4.3	N.E.	9
3.6	N.-B.	2
13.9	Qué.	11
48.3	Ont.	36
4.4	Man.	6
5.9	Sask.	14
8.4	Alta.	11
8.8	C.-B.	10
100.0%		100%

Nouveau film de l'A.D.C.

La bibliothèque de l'A.D.C. met à la disposition de la profession un nouveau film en couleurs et sonore qui dure 14 minutes. Cette pellicule, qui a été réalisée par l'Office National du Film, a été dirigée, par la Division d'Hygiène dentaire du Ministère de la Santé Nationale et du Bien-Etre social avec la collaboration de la Section d'Orthodontie de l'A.D.C.

Le film "Putting it straight," raconte l'histoire de la petite Marie qui était gênée et malheureuse parce qu'elle avait les dents croches. Sa mère, croyant que ce défaut était congénital et qu'il ne pouvait être corrigé, ne lui accordait que peu d'attention. Une voisine réussit à la convaincre de faire quelque chose pour sa petite fille.

Le film appuie sur l'importance d'apporter aux dents des soins précoces, réguliers et systématiques pour prévenir ces défauts.

The Canadian Dental Association

JOURNAL

Volume 26

Number 10

Toronto

October 1960

Histopathology of Enamel Caries.

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INTRODUCTION

A review of the literature on the histopathology of enamel caries can be found in many papers¹ and need not be repeated. There is a general tendency to define a typical initial lesion.

Earlier workers deduced the character of the areas of the lesion from the aspect seen in microscopic examinations of

ground sections. It became progressively apparent that with this method the appearance of different areas of the lesion varied considerably depending not only on their mineral content, but also with the degree of imbibition of various optical media, and with different techniques.

Then various methods of examination were combined: ordinary light, polarized light, incident light, dark field illumination, electron microscope, X-rays, microhardness tests, staining, histochemistry, etc. Combined methods allowed the recognition of artefacts, and so many previous concepts had to be revised. Nevertheless,

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This study was supported by Research Grants DE-8 and D.A. 79 from the National Research Council of Canada.

present conclusions are still contradictory.

In some of the recent works a typical initial caries of a smooth surface is described as a conical lesion divided in, from 2 to 3 zones, up to Gustafson's¹ 6 zones, which is a modification of Gysi's and Nishimura's² 7 zones.

In contradistinction, Darling³ and Kostlán⁴ recently distinguished only a surface layer, while the rest of the cone is gradually demineralized without definite zones.

From the works of other authors^{5,4}, and from daily experience in routine examinations of carious lesions we realize that the classical, typical lesion is not a regular result of the carious process. There is a large variety of other forms.

Studying an ideal lesion tends to oversimplify the problem. We should understand the character and origin of the alterations in different areas of the carious lesion and then the study of various and atypical lesions may lead to better understanding of the entire carious process.

The present work attempts to do that by distinguishing and classifying the individual alterations of the elements of structure of the enamel, i.e. the rods, the interprismatic substance and the minerals, just as histopathology of other tissues considers separately cells, intercellular substances and fluids.

MATERIAL AND METHODS

Over 400 teeth were selected for further microscopic study, from the several thousand teeth which were examined under low magnification originally. They include various stages from pre-clinical to more advanced lesions, and various forms of white and pigmented, and of proximal, cervical, fissural lesions.

The main part of this work is based on microscopic examination with reflected light using the technique previously described⁵; a flat surface ground in a suitable direction and depth is polished

(emery paper 4/0, polishing cloth Gamal-Fisher) and examined with Ultropak incident light illuminator. The best results were obtained from studies of surfaces ground perpendicularly to the enamel rods.

The image of the enamel seen by Ultropak is created mainly by submicroscopic spaces with different optical properties than the translucent submicroscopic crystals. Some spaces are "empty" in vivo, some contain fluid and become filled with air after the evaporation of the water from the surface⁶. The areas containing submicroscopic spaces reflect light and contrast with the translucent background. In the enamel, spaces are present only where mineralization is not complete. Consequently, the image seen in reflected light results mainly from differences in the content of minerals. This allows us to see the structure of the enamel and to study the minute changes in mineralization on the "cytological" level of rods, sheaths and interprismatic substance.

The fully mineralized areas appear translucent, dark yellowish to greyish. Areas with low mineral content appear white and shine against the dark background. Many shades between dark grey and brilliant white compose the image of the structure of the enamel and that of the carious lesion. The natural pigmentation of some lesions or artificial staining of the specimen present very colorful images.

The majority of the teeth were examined not more than few hours after the extraction. They were cleaned and kept in normal saline and not allowed to dry out excessively during the study. Many teeth were reexamined following fixation in 8% formaldehyde. This does not seem to alter the structure, however the contrast is sometimes diminished.

The study of enamel surfaces cut perpendicularly to the rods permits excellent localization of fine alterations in the cross-section of the rod, of the sheath, or of the interprismatic substance. Regrinding the surface deeper and deeper allows us to study the lesion "in serial sections".

The examination of teeth in their natural state avoids the artefacts of the usual ground sections treated and embedded in various chemicals. To study the artefacts and for other special purposes, the surfaces can be examined after imbibition with various liquids. (Immersion oil with Ultropak objective 100.)

A great number of micro-hardness tests were made on the observed surfaces. They confirm the microscopic observations by demonstrating in a different fashion the differences in the mineral content.

Many surfaces were stained by various histochemical methods. This allows further differentiation of the organic material.

Microscopic examination of natural surfaces of the enamel permits us to find and study the initial lesions at such an early stage that they could hardly be detected by any other method.

A surface which has been polished so that it cuts the natural enamel surface at an acute angle, allows us to follow the lesion from the surface into the depth.

To compare the observations made with reflected light with those of other methods, and with the observations reported in the literature, many lesions were examined in ground sections by transmitted and polarized light. The adjacent part of the lesion was examined with reflected light, microhardness tests etc.

The permeability of carious lesions was determined by various staining and mineral solutions. In some cases, the solution was applied on the crown which was isolated by rubbed dam, while the root was in normal saline. In some cases the root was protected by a coat of paraffin. In most cases the tooth was simply submerged in the solution. The time varied from 2 hours to several days. After the experiments the teeth were cut longitudinally, the surface polished and the depth of penetration of the solution was determined. The penetration of toluidine blue and AgNO_3 is clearly visible.

Calcium hydrogen orthophosphate labeled with radioactive isotope of phos-

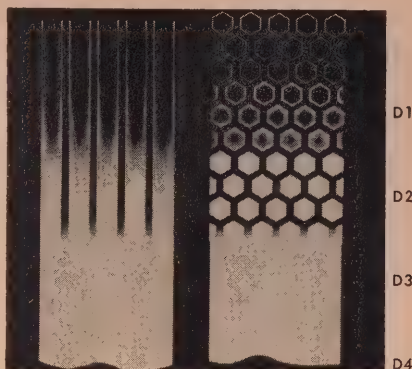


FIGURE 1

Demineralization D1, D2, D3, D4.

phorus P 32 was used in 0.02% solution to study the penetration of minerals which are present in saliva. Its penetration was determined after the experiments by autoradiographs made from ground sections of the teeth.

RESULTS:

1. Demineralization.

The basic process in the carious lesion is the demineralization. In relation to the structural elements of the enamel, the following stages of demineralization can be distinguished (fig. 1.):

Stage 1. The rod sheaths are wider and brighter than in normal enamel. Gradually, the external layer of the rod becomes grey and white and its dark, translucent core becomes smaller. There is a sharp delimitation between the rods and the dark net of the interprismatic substance. In the beginning the sheaths are visible as lines. When the rods begin to be altered, there is a gradual transition from their white outline to grey and to the translucent center. Then, the sheath cannot be differentiated from the rod.

Stage 2. The entire cross-section of the



FIGURE 2

Surface of the enamel, perikymata, initial caries (Ultropak, UO 6.5, Leica)

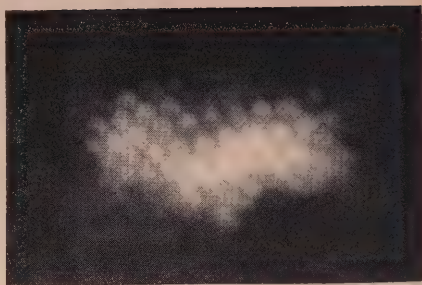


FIGURE 3

Polished surface, initial caries, D1, D2. (UO 50)

rod is white, and clearly contrasts against the dark net of the interprismatic substance. The rod contour is sharp, the sheath cannot be differentiated from the rod.

On the periphery of certain lesions there is a gradual transition from stage 1 to stage 2, i.e. from partly to fully altered rods. In other cases, on the periphery the entire rod cross-sections are greyish and there is a gradual transition from greyish to white rods. The cross-striation of the rods seen in the usual ground sections appears here as alternation between partly and fully white rod cross-sections.

Stage 3. The interprismatic substance becomes white too. The entire area is white, bright, homogeneous, without any visible details. The structure of the rods, sheaths and interprismatic substance is still preserved and becomes visible when the area undergoes pigmentation, remineralization or staining.

Stage 4. The white organic substance is definitely homogeneous, the original structure is decomposed. The area remains homogeneous in case of pigmentation, remineralization or staining.

Stage 5. There is a cavity, the homogeneous substance has been destroyed.

The very early lesion appears as a

white spot containing a group of about 20 rods. On its periphery is the first stage D 1, adjacent to it the second stage D 2 and the center reaches sooner or later the third stage D 3. (Fig. 2, 3.) The spot can be seen on the natural surface of the enamel, in the well known zones, under the bacterial plaques. It may appear on a microscopically smooth and homogeneous surface. When perikymata and striae of Retzius are present, the lesion starts between the perikymata, in a stria. Several microscopical spots appear almost simultaneously and gradually enlarge and become confluent, firstly those formed in one stria, then they enlarge across the perikymata and unite with those in the neighbouring stria. (Fig. 2.) The lateral spreading in the striae is even more apparent than the penetration by the striae into the depth seen in longitudinal ground sections. When the lesion becomes larger the invasion into the depth forms the classical cone. In this stage, many of the lesions correspond to Darling's description³: a cone with gradually increasing amounts of spaces, from .1% to more than 25%.

The earliest carious changes have to be distinguished from other images often seen in the enamel. Clinically normal enamel is not always uniformly calcified

nor normal microscopically, which is far more apparent on surfaces perpendicular to the rods than on the usual ground sections.

The enamel may appear structureless or the net of the rod sheaths and interprismatic substance may be more or less clearly visible, greyish to white in appearance. The interprismatic substance may be clearly distinguishable or it may be almost absent.

In homogeneous enamel, the white sheaths which appear only around the lesion are obviously the first alterations produced by caries. In other teeth, all of the enamel shows white sheaths and the first stage of demineralization only increases their contrasts and thickness. Here, it may be difficult to determine exactly the earliest beginning of alterations unless we use staining. Sometimes the lesion seems to begin with the stage D 2.

The striae of Retzius may be present in several degrees of differentiation:

The rod sheaths are lighter and thicker than in neighbouring enamel.

The rod sheaths and the peripheral parts of the rod cross-sections are greyish white.

The entire rod cross-sections are light grey, only the interprismatic substance is dark.

Even the interprismatic substance is light grey, the structure disappears, there is only a light grey to white stripe.

These structural changes resemble the demineralization seen in zones D1, D2, D3 but there are the following differences: The striae of Retzius are narrow, parallel, regular bands; there is a rapid transition from normal enamel into the striae; the striae are light grey and do not reach the brilliant white aspect of the carious lesion. Where the polished surface reaches the natural surface of the enamel the striae can be followed between the perikymata.

When caries starts in a stria, the first stage D 1 usually cannot be distinguished.

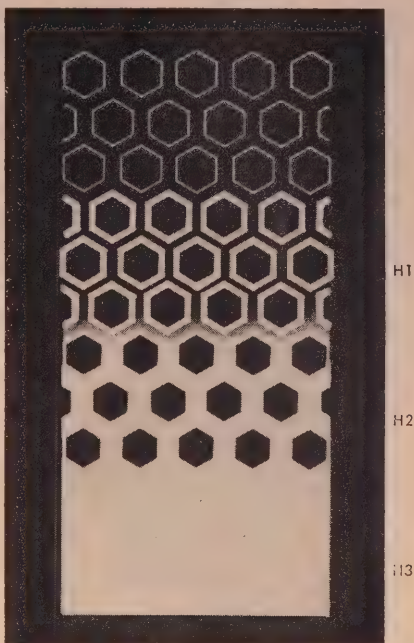


FIGURE 4

Hypomineralization H1, H2, H3.

The stage D 2 or D 3 can be distinguished when it becomes lighter than the stria or when the lesion enlarges beyond the stria.

Hypocalcifications of developmental origin may be seen microscopically in clinically normal enamel. In relation to the structural elements, the following degrees of hypomineralization can be distinguished: (fig. 4.)

H. 1. The rod sheaths are lighter and thicker than in normal enamel.

H. 2. The rod sheaths and the interprismatic substance are light grey or white and cannot be distinguished from each other. They form a continuous white, thick net. The rod cross-sections are dark, translucent.

H. 3. Even the rod cross-sections are light grey to white. There is a homogeneous white area without visible structure.

In young teeth, the hypomineralized areas may be white and quite brilliant. Both, initial caries and hypomineralization appear as a white spot and begin on the periphery with thickened rod sheaths. From this, the demineralization D1, D2 progresses to white rods against a dark net but the hypomineralization H1, H2 to a white net against dark rods.

In old teeth, the hypomineralizations usually undergo remineralization (the diffuse type, to be described later) and their aspect is cloudy, faint grey, with little contrast. When caries starts in a hypomineralized area with the cloudy aspect, the brilliant white of the fresh demineralization D1, D2, D3 contrasts well against the faint grey background.

When caries starts in a clear white area of hypomineralization the two phenomena can be distinguished only when we find grey to white external layers of the rods, characteristic of the first stage of demineralization D1. Further stages H2 with D2, H3 and D3 are all white.

Even more complicated phenomena can be seen and analyzed: Hypomineralization with striae of Retzius with demineralization and remineralization.

2. Remineralization.

The term remineralization is usually applied when minerals missing in a lesion are replaced by minerals from outside of the lesion. Here, speaking about microscopic areas such as sections of rods, it means that the section has regained previously missing minerals. The use of the term remineralization is in no way prejudiced by the origin of the minerals, whether they be from outside of the lesion, or due to a shifting within the lesion.

Several types of remineralization are to be seen. The remineralization may be selective, involving certain structures: 1. the enamel rods, 2. certain rods only,

3. lamellae or cracks. 4. It may be diffuse and not limited to any particular structure.

Remineralization is gradual and several stages can be distinguished. The histological appearance of remineralization depends on the degree to which the area had been demineralized before the remineralization started⁶ and on the degree of remineralization reached. Several types and several stages may be present in various areas of one lesion.

1. The remineralization in a certain area follows the enamel rods.

D1+R1: When remineralization starts in the zone demineralized to the first degree D1 the rod sheaths and the peripheries of the rods regain the minerals and the area appears normal. The rod sheaths and the interprismatic substance may become more mineralized than before, to the same degree as the rods (D1+R3) and the area loses its structural details.

This explains why some lesions lack the initial zone D1 and are surrounded by normal or more translucent enamel. But it is difficult to prove that a normally appearing area was first demineralized and then remineralized. In D1+R1 the rod sheaths stain with toluidin blue, in normal enamel they do not stain.

D2+R1 (fig. 5.): When the remineralization starts in the zone demineralized to the second degree D2, its first stage R1 produces the following changes: The net of interprismatic substance is dark. The white thin rod sheaths appear separate. The external layer of the rod is dark, translucent, with gradual transition to the white core of the rod. (Fig. 6.)

Gradually, the white rod sheaths disappear. Then there remain only the white cores of the rods appearing as round dots of various sizes on a dark translucent background. The net of interprismatic substance may be barely visible. This last stage is seldom seen.

D2+R2. When the remineralization reaches further stages, the entire rod cross-sections are remineralized and the

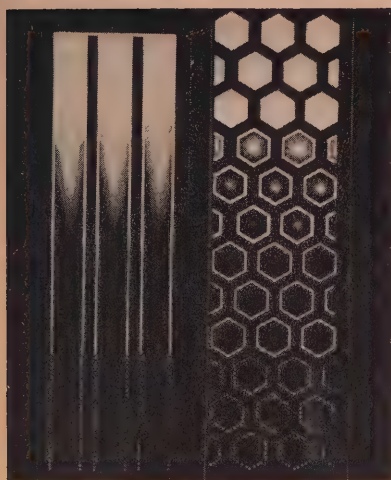


FIGURE 5

Remineralization in the second degree of demineralization $D2 + R1,2,3$.

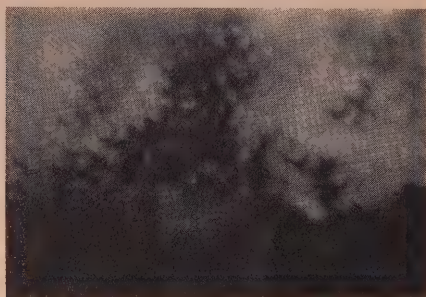


FIGURE 6

Centre: $D2 + R1$, periphery: $D2, D3$. (UO 50)

$D2 + R3$

area appears almost normal or even more translucent than normal enamel. ($D2 + R3$). Here, the remineralization is indicated only by its continuity with other remineralized zones. In some cases the difference between normal and remineralized enamel is visible after staining.

$D3 + R1$ (fig. 7). When the remineralization starts in the zone demineralized to the third degree $D3$, its first stage $R1$ produces the following changes: in the white reflecting area the dark peripheries of the rod cross-sections can be seen. There is a sharp delimitation between the outline of the rod and the white net. There is a gradual transition from the dark periphery of the rod to its white core. Fig. 8.

$D3 + R2$. (fig. 7). When the remineralization in a zone $D3$ reaches its second stage $R2$ the following aspect results: Dark rod cross-sections are visible against a white net. There is a sharp delimitation between the outline of the rods and

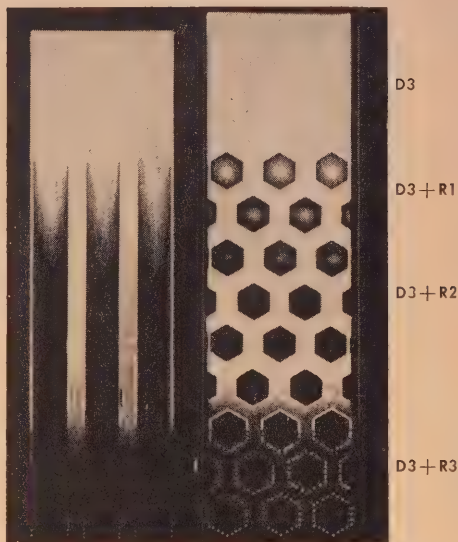


FIGURE 7

Remineralization in the third degree of demineralization $D3 + R1,2,3$.

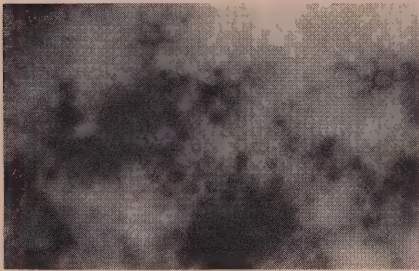


FIGURE 8

Centre: D3 + R1, around: D3 + R2, D2, D3.
(UO 50)

the white background, the rod sheaths cannot be distinguished. The aspect of the rods varies from a greyish-white to the dark translucent aspect of normal rods. (Fig. 8.)

Dark rods on a white background can be seen also in the second degree of hypomineralization H2. There, the alterations begin with the first stage H1. In case of remineralization we find in the neighbourhood the preceding stages of demineralization D1, D2, D3 and remineralization D3+R1.

D3+R3. When the remineralization in a zone D3 reaches its third stage R3, the net of interprismatic substance becomes dark and the rod sheaths become faintly visible as in normal enamel or even invisible. The final result is a homogeneous zone with a special cloudy appearance, with a colour varying from a greyish white to a darker translucency approaching that of normal enamel.

D4+R: The same homogeneous cloudy aspect results when remineralization occurs in the fourth stage of demineralization D4. Here, the organic structure has decomposed and does not reappear in the progress of remineralization. There is just progressive cloudiness.

The difference between these two kinds

of homogeneous cloudy areas appears if a new period of demineralization occurs: if it was D3+R3, the organic structure reappears. Staining, for ex. with AgNO₃ will give similar results.

2. The types of remineralization just described occur simultaneously on all rods in a certain area which gives this entire area a characteristic aspect. In the second group are phenomena which do not form any characteristic areas but are present on certain rods only which are irregularly scattered over the lesion. They can be seen mainly in areas with the second and third degree of demineralization D2 and D3.

In the second degree of demineralization, among the regular white rod cross-sections we can see some conspicuous rods. There may be very few or there may be dozens of them. When there are many, they may form small groups of 3 to 6 rods. The cross-section of the rod is usually larger than that of the other rods in this area. The white thin rod sheath appears separate. The external layer of the rod is dark with gradual transition to its white core. Around this rod is a wider and darker layer of interprismatic substance than otherwise in this area. The aspect is that of an isolated, enlarged rod from a zone D2+R1.

In the third degree of demineralization (fig. 9, 10): In the white bright area D3 there are a few scattered rods similar to those described above. The dark layer of the interprismatic substance around each makes them still more conspicuous in the white area than in the zone D2. The rod shows the first stage of remineralization and its dark capsule in the otherwise homogeneous white area shows an unusual kind of remineralization in the interprismatic substance around this rod only.

This type of remineralization is observed mainly in chronic and arrested caries.

Rods with a cross-section larger than average can seldom be seen in healthy enamel in the striae of Retzius near the surface. In this type of remineralization

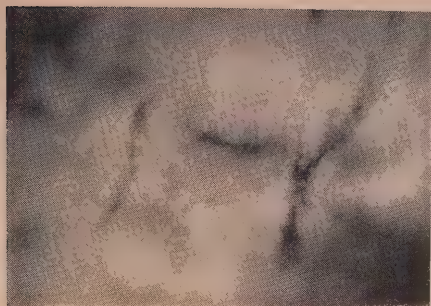


FIGURE 9

Remineralization involving certain rods only and lamellae. (UO 11)

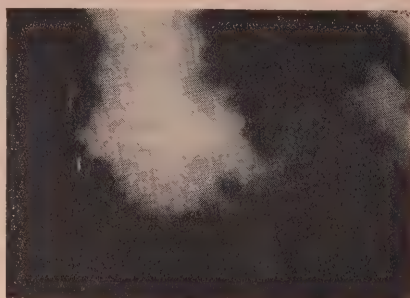


FIGURE 11

Diffuse remineralization D1,2,3 + RD. (UO 50)

the large rods appear in numbers which cannot be found elsewhere. So it seems that this "swelling" is a result of a pathological process which also makes the rod and its interprismatic substance especially susceptible to remineralization.

3. Another type of remineralization appears as translucent bands surrounding certain lamellae and cracks in the carious lesion. Fig. 9. Their form is irregular, their width varies from 1 or 2 to about 6 rods

on each side of the lamella. Their limits are usually quite conspicuous against the white background.

They are most apparent in the white zone D3. The rods in the band present the aspect of the second and third degree of remineralization D3 + R2, D3 + R3, reaching a high translucency. Occasionally, some rods in less advanced stages such as D3 + R1 may be seen.

4. In the diffuse type, the remineralization proceeds uniformly all over an area of the lesion, making no difference among the units of structure. The differentiation produced by the demineralization tends to disappear, no zones are formed, the limits of the remineralization are rather vaguely visible. Fig. 11.

D 1,2,3, + RD: When the remineralization of the diffuse type RD occurs in an area with gradual demineralization, the characteristic image of the zones D1,D2,D3 becomes hazy, cloudy, the contrasts decrease. The brilliant white of D3 becomes greyish white, white rod cross-sections of D2 become greyish white to slightly translucent grey. There is a special cloudy appearance of a partly translucent material. It looks like an underexposed out of focus photograph of D1,D2,D3. In a high magnification, the entire image seems to be very finely granulated.

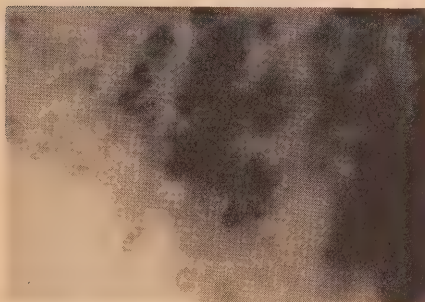


FIGURE 10

Remineralization involving certain rods in zones D1,2,3. (UO 50)

When the diffuse remineralization reaches a high degree it produces homogeneous, cloudy, more or less translucent areas which have about the same aspect as D3 + R3 and D4 + R. On their periphery we may find remains of the original lesion which will show whether it was a demineralization or a hypomineralization and a selective or a diffuse remineralization.

The diffuse remineralization going on uniformly all over a small lesion may diminish its volume: the periphery of the zone D1 regains the aspect of normal enamel, the periphery of D2 regains the aspect of D1, the periphery of D3 regains the aspect of D2.

The diffuse type of remineralization is often seen in hypomineralizations producing a cloudy aspect of all three degrees H1 + RD, H2 + RD, H3 + RD.

Observing the diffuse type of remineralization we have to exclude artefacts. The same aspect can be produced by imbibition with water and other fluids. Therefore the observed surface has to be dry and free from artificial imbibition. The drying out under the microscope is slower than in areas with demineralization only.

To summarize briefly the results of the first and fourth type of remineralization:

Three stages have quite characteristic aspect: D2 + R1, D3 + R1, D3 + R2.

Homogeneous areas inside the lesion may be three different zones: D3 + R3, D3 + RD, D4 + R. They can be differentiated only in special circumstances.

On the periphery, four stages may look like a normal enamel: D1 + R1, D2 + R2, D3 + R3, D1 + RD, and two stages may be more homogeneous and translucent: D1 + R3, D2 + R3. They can be differentiated only by comparison with other zones and by special staining techniques.

Occasionally, some other phenomena can be observed in the remineralized areas.

In certain partly remineralized rods in D2 + R1 there is a sharp delimitation between the white core of the rod and its

dark external layer. It almost looks as if the rod was composed of two separate substances.

In certain parts of an area D3 + R3 having otherwise the aspect of normal enamel, some of the rod sheaths are thicker and more apparent than in normal enamel.

In certain areas of diffuse remineralization white rod cross-sections can be seen which show a peculiar granular or reticular structure, are deformed and enlarged and seem split in fibers which protrude into the interprismatic substance. Towards the periphery of the area, the rods diminish and disappear. It seems to be a disintegration of the rods preceding the complete homogenisation in the zone D4. (Which can be visible only after partial remineralization.) However, similar phenomena can be seen sometimes in the lines of Retzius and it might be an artefact produced by polishing of soft rods.

These and many other details which may be seen in caries, various types of pigmentation, various relations of lamellae to demineralization, remineralization, pigmentation, merit a special study.

DISCUSSION

The electron microscope fails to show a distinct difference between the rod sheaths, rods and interprismatic substance and it has been suggested⁷ that they are all composed of the same submicroscopic crystals and fibrils arranged in different quantities and directions. The alterations studied in this work can be explained either on the basis of this theory or on the basis of the classical concepts. The fact that the sheaths cannot be distinguished sometimes from the rods, sometimes from the interprismatic substance would support the theory that they are all composed from the same material. Certain staining and metachromatic reactions of the sheaths seem to indicate that there is some different material. But this could be already a consequence of the pathological process.

Darling³ found that the areas containing 1% to 5% of spaces calculated from observation with polarized light did not show decalcification on microradiographs. Either microradiography is not sensitive enough or the first spaces are produced by another process than decalcification⁸. Even if there might be some doubt about the origin of the first few spaces, there is no doubt about the role of decalcification in caries. The fact that the described phenomena seen in reflected light correspond really with the degrees of decalcification can be confirmed by polarized light, radiography, micro-hardness tests, experiments, etc. In this study, several methods were used, most often the micro-hardness test.

It is more difficult to prove the remineralization. Several methods can confirm that the remineralized zones contain more minerals than comparable zones showing demineralization only. Ground sections examined with polarized light show the presence and to a certain extent the distribution of minerals in rods and interprismatic substance, but they do not show whether it is a result of a partial demineralization only or of a demineralization with succeeding remineralization. On polished surfaces, the micro-hardness test allows to compare directly the hardness and mineral content of demineralized and remineralized areas.

The demineralized areas stain readily, the remineralized areas do not stain. When whole teeth are immersed in stains or AgNO_3 , the remineralized zones slow down or stop the penetration of the solution. Remineralized areas are regularly found in lesions presenting the clinical aspect of chronic and arrested caries, i.e. dark pigmentation and hard surface eventually with interproximal attrition.

There might be a different carious process which alters firstly the sheaths and the interprismatic substance and then the rods. The phenomena previously described as remineralization in the homogeneous white zone $\text{D3} + \text{R2}$, $\text{D3} + \text{R3}$ could be an image of a carious process spreading

in this way. However, from the studies done until now this is not probable. This image has not been seen in early initial lesions. It is present mainly in chronic or arrested caries. It is present simultaneously and in close proximity with alterations which leave the interprismatic substance unaltered, such as D1 , D2 , $\text{D2} + \text{R1}$, $\text{D2} + \text{R2}$. Therefore it is more probable that it is a remineralization following the same ways as the demineralization.

This does not say that different carious processes do not exist. Very seldom, in small areas, the rod sheaths whiten and progressively thicken simultaneously towards the interprismatic substance and towards the rod centers. Their delimitation becomes fuzzy. Progressively, the entire area whitens. Similar appearance can be produced by acid solutions *in vitro*. It might be the result of an acid action spreading more rapidly than the usual one producing the typical zones D1 , D2 , D3 .

CONCLUSIONS

Beginning to understand the elementary histological changes, we can analyze the various lesions. A tentative classification offers itself:

1. Progressive caries evolves from the initial demineralization directly to destruction ($\text{D1} - \text{D2} - \text{D3} - \text{D4} - \text{a cavity}$).
2. Alternating caries shows progress of demineralization in some areas, progress of remineralization in other areas (fig. 12).
3. Regressive caries shows wide areas of remineralization, no progress of demineralization, no areas of clear D1 , D2 . The remineralization is not complete, demineralized areas without evidence of remineralization are present.
4. Arrested caries, strictly speaking, are only lesions that have been entirely remineralized to a high degree. (Theoretically, this fact should be confirmed by serial sections.) More common are lesions with a satisfactorily remineralized surface layer, with the deeper parts showing remineralization everywhere on the peri-



FIGURE 12

Example of alternating caries: top D1,2,3, bottom: D3 + R2, D3 + R3. (UO 50)

phery, with small areas inside of the lesion showing relatively little remineralization.

Most very small lesions are progressive caries. Small lesions which soon form a cavity and lesions which have clinical character of very rapid caries are microscopically usually progressive caries. Around the cavity there is a narrow band of D1, D2, D3. It seems probable that every lesion begins as progressive caries.

Majority of clinical lesions are microscopically alternating or regressive caries. Some resemble the idealized lesions described by Nishimura² or Darling³, most are irregular. A very common phenomenon which seems to have a particular im-

portance for the evolution of the lesion is the formation of a surface zone showing mainly the diffuse type of remineralization.

Most lesions which appear clinically as chronic or arrested caries are microscopically regressive caries. Many other lesions, already small white spots are regressive caries. Many, but by no means all regressive caries are pigmented.

Although we can see microscopically the difference between a progressive, an alternating and a regressive caries, they are only stages of evolution of the same process. A caries begins as progressive and becomes alternating and may become regressive and arrested. The lesion which appears as alternating may appear as regressive if the tooth was extracted few days later or earlier.

Lesions which appear clinically as arrested caries are not always fully remineralized in the interior. Only small dark spots are usually entirely remineralized. Microscopical arrested caries are very common on clinically normal surfaces of old teeth, mainly as pigmented lines which were originally class V. carious lesions during the eruption of the teeth. What appears clinically to be a caries immune tooth is often not a tooth which resisted caries but a tooth in which initial lesions were arrested so early that they are not visible clinically.

Small initial caries and lesions with cavity formation are permeable to stains and readily take up phosphates from weak solution in a few hours. Lesions which have a well developed translucent layer on the surface are not permeable to stains and do not take up phosphates even after several days. If the surface layer is ground off, the demineralized areas stain rapidly in a few minutes.

In some lesions, the surface layer does not stain but it permits the penetration of the solution into the deeper parts of the lesion through certain rods or lamellae. Then the deeper demineralized zones are stained; the zones with remineralization do not stain. Autoradiographs

show a moderate take up of phosphates in certain parts of the lesion only.

It is probable that the take up of radio-active phosphates in vitro can be compared with the take up of phosphates from saliva and this would allow certain conclusions:

In the beginning, the carious lesion is permeable and takes up phosphates. After the lesion has evolved to a certain degree, it does not take up any more phosphates.

This may be due either to the fact that the surface layer is completely saturated with minerals and does not take up nor pass any more, while the deeper zones are not saturated because they are not accessible. A new attack of caries breaks through the surface layer and the process in the depth starts again. This would produce the variable phenomena of alternating and regressive caries.

Or the entire lesion is fully saturated with minerals and does not take up any more phosphates. In that case a new attack of caries cannot particularly reactivate the lesion and can be easily remineralized. This results in the stationary character of arrested caries.

Caries appears clinically as a very slow disease not because the process is indeed so slow but because it is intermittent and the damage done in active periods is partly repaired in periods of inactivity. This natural defense merits further investigation.

SUMMARY

Carious lesions have been studied mainly in a natural state on surfaces

polished perpendicularly to the rods and by several other techniques.

Four types of remineralization have been distinguished: A selective remineralization involving all the enamel rods in certain areas, certain rods only, lamellae or cracks, and a diffuse type of remineralization.

The appearance of remineralization depends on the degree to which the area had been demineralized before the remineralization started and on the degree of remineralization reached. Several stages have been distinguished.

Four evolutionary types of carious lesions have been distinguished: Progressive caries, alternating caries, regressive caries, arrested caries.

Certain lesions are permeable to stains and minerals, certain are not.

Formation of a mineralized surface layer is important for the evolution of the carious lesion.

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"... Man's first concern in dealing with radiation, must be his own protection."

H. J. MULLER,
Geneva Conference on Genetics in 1955.

A Review of the Hazards of Radiation in the Dental Office

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INTRODUCTION

Only in recent years has there been a rising concern over the hazards of radiation in dental and medical practice. This concern has arisen mainly because of the amount of extra man-made radiation released from nuclear bomb explosions starting with the explosions of Nagasaki and Hiroshima and ending with the recent detonation of the Sahara Atomic blast. These explosions have frightened people because the effect of the extra man-made radiation is for the most part unknown. The phrase extra man-made radiation is synonymous with the common term of "fall-out" and in particular with long range fall-out over wide areas. This fall-out will continue to be with us in ever increasing amounts for years to come even if no more nuclear bombs are exploded. This seems to be wishful thinking for if one examines the world situation today there is little hope for a true nuclear cease fire in the near future. In addition to this type of radiation, there are other kinds of extra man-made radiation and one of the many others is radiation produced in dental offices, in which we as dentists should be most interested.

Dental radiography probably accounts for a larger number of exposures than any other single aspect of X-ray diagnosis. This fact should merit the closest attention by the dental profession. Attention also should be directed to the understanding of the hazards involved as well as the elimination of these hazards, both to the patients and to any other persons nearby. It is therefore essential or necessary for those of us who use X-rays or any kind of ionizing radiation to be kept abreast of new knowledge as it becomes available.

With the above in mind, the prime purpose here is to discuss a few of the properties of X-rays, some of the biological effects they exert on man, the manner in which X-rays can be controlled, and the practical steps that can be undertaken so as not to lessen or hinder their diagnostic value; while at the same time, curtail any unnecessary hazards. Therefore this essay will be divided into three chapters.

- (a) A Review of the Radiation hazards encountered in a dental office.
- (b) Characteristics that make Radiation dangerous.
- (c) A means of achieving protection from hazards of Radiation encountered in a dental office.

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REVIEW OF RADIATION ENCOUNTERED IN THE DENTAL OFFICE

Although the acute effect of massive and intensive radiation is not of prime interest to dentists, an awareness of the destructive potential of X-rays should be of importance to them. And the feeling that dentists need an extensive knowledge in the field of physics, chemistry and mathematics to understand the changes brought about in human beings by exposure to radiation, holds no truth. All that is necessary is a practical understanding of the subject. Thus a concise but elementary description of the fundamental biologic effects of radiation in dentistry is necessary. This will be discussed under the following headings:

- (a) Effects of radiation on cells
- (b) Effects of radiation on tissues
- (c) Whole body effect of radiation
- (d) Genetic effects of radiation

(a) Effects of radiation on cells

The effects of radiation on cells can be subdivided into two actions; (1) indirect and (2) direct. The indirect action deactivates enzymes and hormones as well as the production of cell poisons made during the irradiation of proteins in other cells. These poisons are transported to regions other than those that received radiation and upon reaching these (normal) cells, cause their death.

In direct action, changes to the cells similar to indirect radiation are noticed, as well as action directly on the protein within the cells. This may cause disruption of the cell make-up and again ultimately lead to the cell death.

Another aspect of cell damage is the effects on cell division; apart from damage to chromosomes. This effect is arrested mitosis and is especially noticeable in the prophase. The delay in mitosis is so great that a normal cell starting division after the affected one, will succeed in dividing into two cells before the arrested cell completes its division cycle.

Another factor in cell division is endo-

mitosis. Here there is a duplication of chromatin within the cell, but due to the radiation the cell does not divide into its usual two parts. It thus becomes apparent that cells undergoing mitosis are most susceptible to radiation.

Damage caused to chromosomes by radiation results in the loss of a gene or a mutant change in the gene. This is called "point mutation". The results of such changes will be discussed under genetic effects.

Another aspect of chromosome damage by radiation is the breaking of one or more chromosomes. These chromosomes possess the ability to join together or to stay apart. If they join together there may be any number of combinations, especially, if the chromosome breaks into many parts. Cells showing chromosomal breaks, survive until they attempt to divide; the result at this time is death to the cell.

Therefore, it can be shown that radiation can cause chromosomal damage, ar-



Loss of part of a chromosome due to radiation



Breakage of chromosome into three parts with inversion of the b segment upon rearrangement.

FIGURE 1

Diagrammatic representation of two simple chromosomal breaks that can be caused by x-rays.

(Adapted from Manson-Hing, O.S., O.M. & O.P.
Vol. 12, No. 5, p. 567)

rested mitosis, endomitosis, impaired function and finally cell death.

(b) The effects of radiation upon tissue

Tissues, similarly to cells vary in their reactions to x-rays. Generally, tissues which are constantly replacing cells through mitosis will show greater damage to radiation than do tissues which show little or no mitosis activity. These tissues are divided into two groups:

i. Radiosensitive tissues — These consist of (1) blood forming tissues (2) reproductive cells (3) lymphatics (4) young bone tissue and (5) the skin.

ii. Radioresistant Tissues — These consist of (1) glandular tissues (2) muscle tissue (3) nerve tissue and (4) mature bone tissue. It should be emphasized that not all the cells in the path of radiation will be injured, but only a few will show permanent or transient injury.

One of the major damages confronting individuals exposed to minor dosage of radiation over many years is the cumulative effect of subtraumatic exposures. The time lapse before any effects are noticed, is called the "latent period". The latent period increases as more penetrating x-rays are used. Thus the latent period explains the many years of apparent immunity which are then followed by tissue changes without any clinical sign of warning.

The cumulative effect is of particular interest to the dentist. When tissues are irradiated the amount of reaction will depend on the dose. Whatever the reaction, repair to the tissue will take place, as long as complete degeneration did not occur. However, the tissue never retains its original state, thus producing irreparable damage. It is this irreparable damage which is cumulative.

The practicing dentist can think of x-ray absorption as producing in tissue the following sequence of events: (1) Erythema (2) Chronic dermatitis (3) Atrophy of the skin (4) Hyalinization of collagen (5) Damage to immature blood-cells with leukopenia and leukocytosis (6) Endarteritis obliterans with fewer arterioles (7)

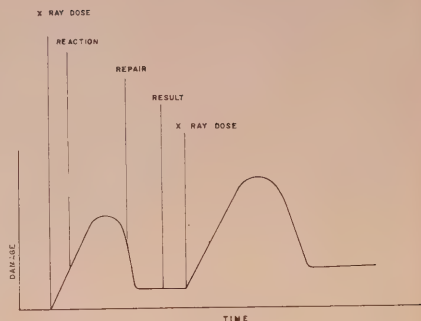


FIGURE 2

Diagrammatic representation of the cumulative effect of radiation.

(Adapted from Manson-Hing, O.S., O.M. & O.P. Vol. 12, No. 5, p. 568)

Ulceration (8) Osteoradionecrosis and (9) Mutations with neoplastic activities.

The most important stage of tissue reaction to be recognized by the dentist is x-ray dermatitis. Because dentists and their patients are more prone to receive repeated small doses of radiation, dentists should be able to recognize the first clinical indications of chronic dermatitis. The visible effects of x-ray damage to the hands or skin can be divided into early and late symptoms. The early symptoms are: (1) Increased susceptibility to chapping and an intolerance to surgical scrub-up (2) Blunting and leveling of the finger ridges (3) Brittleness and ridging of the fingernails. The late signs can be described as: (1) loosening of the hair (2) dryness and atrophy of the skin and (3) progressive pigmentation of the skin.

(c) Whole Body Effect of Radiation

The whole body dose indicates the amount of radiation that is received by a gram of tissue in the entire body.

Whole body irradiation is divided into acute and chronic. It is almost impossible to receive the acute type with a dental x-ray unit, for output is too low. The acute type would be experienced by victims of atomic bomb blasts or by other high energy sources of radiation.

The chronic type of whole-body irradiation is of more particular interest to the dentist. This occurs from scattered radiation which originates from the patient's body. The dose measured at the skin of the X-ray operator is taken as the whole-body dose of radiation. It should be noted by all dentists that prior to 1925 the maximum permissible dose for whole-body radiation was 200 milli-roentgens per day. In 1955 this was lowered to 300 milli-roentgens per week. By 1957 it was lowered once again to 100 milli-roentgens per week; a reduction of 300 per cent in a period of two years. This drastic reduction over a period of two short years indicates the realization of the hazards in working with radiation. It can be expected that the recommended maximum permissible dose will be lowered once again in the near future as new developments come to light. As it now stands, it is recommended that the "permissible dose" of man-made ionizing radiation for the gonads be no more than a total of 10 roentgens to any person between the time of conception and the age of thirty. For those of us using ionizing radiation in our occupation the recommended "permissible dose" has been set at 50 roentgens for every 10 working years. On the following basis it has been advised (by the National Committee on Radiation and Protection which is an advisory committee to the National Bureau of Standards) that the maximum permissible dose should be as follows:

(a) From birth to eighteen years of age the total body dose be no more than 1.5r per year.

(b) From eighteen years to the age of forty-five years, the total body weekly dose should be no more than 3r.

(c) While people who are older than forty-five years of age can receive double those in group (b).

From a public health aspect there is no safe dose of radiation for genetic tissue. The problem today is not how to eliminate the sources of radiation but how to live with it. It is therefore the responsibility of any dentist who owns and uses

an x-ray unit, to make sure that all necessary precautions are taken to keep the exposure of patients and operators to the lowest possible dose consistent with good diagnostic oral roentgenography. The means of achieving these precautions will be discussed in chapter three.

(d) Genetic Effects of Radiation

As stated previously, background radiation to which we are all exposed, has increased and continues to increase as a result of "fall-out" from nuclear explosions. This has given rise to world-wide concern, for the question has often been asked "What will be the effect of radiation on future generations?" Point mutation is the most important of all the different genetic changes. All organisms possess a spontaneous rate of point mutation. This rate can and is increased by radiation. Even when the degree of exposure is as minor as that associated with normal dental x-ray examinations, mutations are unalterable, and additional exposures however minor in degree, must therefore be cumulative. Whether these point mutations are spontaneous or induced, the majority of them are detrimental in nature. The rare advantageous point mutations are felt to be responsible for the process of evolution.

It should be noted that the mutant gene will be transmitted from generation to generation and its effect will be felt not by one person, but by many. Whenever an organism receives a mutant gene from both parents, there exists the possibility of impairment and even death. If only one parent contributes a mutant gene, the gene remains recessive with no ill effect. Therefore it is thought that radiation can be given to small sections of the population without damage to succeeding generations. However, genetic effects become dangerous when large sections of the population receive radiation. This is exactly what is happening today. In the U.S.A. over one hundred million roentgenographs are taken annually with the number steadily on the increase. It is thus no wonder that people are becoming concerned. Thus briefly any agency that

causes the increase of gene mutation (in our case, radiation), will produce an overall effect that is harmful to the human species as a whole.

CHARACTERISTICS THAT MAKE RADIATION DANGEROUS

Previously, we outlined some of the fundamental biological effects that x-ray radiation can have on the human body. The most logical question that comes to mind is, why do x-rays affect us so, especially when we are exposed to them in the dental office? In an attempt to answer this question one has to discuss the absorption and scatter of x-rays as well as exposure in general in the dental office. This will be answered under the heading of:

(a) Exposure and scatter of radiation in the dental office.

It has been found that x-ray doses received by patients and operator are due to radiation from three sources; these are, (1) the direct or primary beam of x-rays from the tube, (2) scattered x-rays from the patient and his surroundings and (3) x-rays transmitted through the x-ray tube housing. These sources are shown diagrammatically in figure 3.

Normally, that is with the patient seated in the dental chair, the direct beam of x-rays falls in the region of the face and neck. That area between the skin and the teeth is called the skin dose. This can only be achieved, to some degree, if the x-ray beam is confined to an area only slightly larger than the roentgenograph. Whatever area of beam is used, there will always be some radiation scattered from the face on to the neck.

If the patient is seated in an upright position (which is usually the case) it is possible for the gonads to be irradiated by the direct beam. The risk is greatest when views of the upper anteriors are being taken. In most cases the gonads receive scattered radiation and the dose is usually one milli-roentgen. However, if they are exposed to a direct beam the

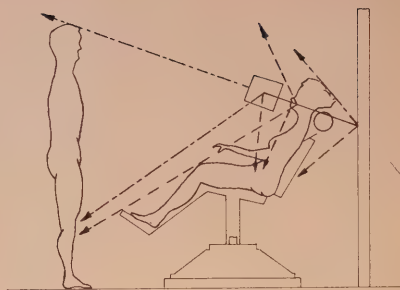


FIGURE 3

— · — · — · — · X-rays transmitted through
tube housing
- - - - X-rays scattered from patient to
surrounding
———— Primary beam of X-rays.

(Adapted from Cohen and Stanford, B.D.J.
Vol. 107, No. 10, p. 280)

dose is increased from ten to one hundred times.

Another source of stray radiation is radiation from tube housing. X-ray apparatus manufacturers do their utmost to prevent the escape of radiation from the head of the apparatus (which is the source of the x-rays). But it should also be appreciated that however well insulated the head may be, some x-rays may still emerge.

There are two types of exposure to the operator, (1) intentional and (2) inadvertent. Intentional means direct beam exposure which occurs when the operator holds the film in the patient's mouth. In this way a part of the finger receives a substantial dose even if the film is backed by lead foil. An even greater dose is received by the hand outside the mouth since the x-ray beam reaching the hand has not gone through partial absorption in the intervening tissues. These doses are very high and over a period of time it would constitute a major hazard, with eventual permanent skin damage. It is no wonder that up to July 1955, at the Mayo Institute, fifty dentists were seen with x-ray dermatitis, with three dentists showing metastases. There are no reasons

whatsoever for these practices, and they are now universally condemned as being irresponsible and dangerous.

Inadvertent exposure is radiation transmitted through the tube housing, and scattered radiation from patient and surroundings. Tests carried out have shown that there is scattered radiation of considerable magnitude all along a perimeter of three feet from patient to operator. The greatest risk can be eliminated if the operator does not stand in front of the tube. It would appear therefore, that the safest position would be directly behind the tube. This is not always true, especially when radiographs are being taken of the upper anteriors. In this case the back scatter is exactly opposite to the main beam. Thus standing behind the tube in this case would be very hazardous indeed.

To sum up briefly; an excessively large beam would cause excessive radiation to the patient's skin, as well as an increased amount of scattered radiation from the patient's head. An excessively large beam would also increase patient gonadal dose as well as whole-body dose to the operator.

METHODS OF ACHIEVING CONTROL AND PROTECTION

It is necessary to realize the hazards of radiation as well as to understand the various characteristics of x-rays and their effects on human beings. Merely recognizing the problems of radiation is not enough. There must be action by the individual so that all hazards of radiation encountered in daily dental practice should be eliminated.

The problem of protecting the patient and securing safety for the operator go hand in hand, because a reduction in dose to the patient will automatically bring about a reduction in dose to the operator. There are four methods by which patient dose can be reduced, without the application of elaborate equipment and which may be applied by the dentist himself.

These are:

(a) Collimation of the beam

As stated above, the dose of a given beam of radiation increases with the size of that beam of radiation. Collimating the beam of x-rays coming out of the head of the x-ray unit with a lead diaphragm will reduce the scope of radiation outside the area under examination. Taking an average dental x-ray unit which uses an 8-inch anode film distance as an example, it is found that it produces a circle of radiation of 4 inches in diameter at the roentgenograph with an area of 12.56 square inches. If the circle is reduced to 3½ inches the area covered is 9.6 square inches. Thus about 23½ per cent less tissue will be exposed to the x-rays. A further reduction to 2.75 inches in diameter, 5.95 square inches in area, reduces scattered radiation to approximately 30 per cent.

It is quite simple to change the diameter of the beam of the x-rays. Place a lead washer, 2 m.m. thick in front of the head of the funnel of the apparatus. The area covered on the patient is proportional to the area of the hole in the washer. The formula is:

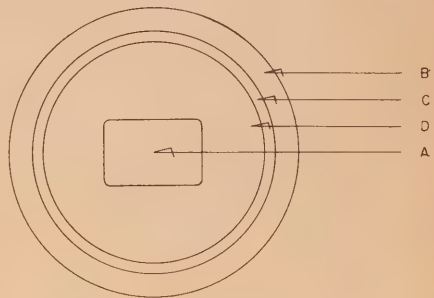


FIGURE 4

A — Relative size of film packet. B — Relative size of 3½ inch coverage. C — Relative size of a 2.75 inch coverage.

(Based on Sweet in D. Radiog. and Photog., Vol. 30, No. 3, p. 53)

$$x:y=3.5:4$$

x =size of hole to be made in the new lead disc

y =the size of the front end of the funnel in the apparatus

Now, if the outer end of the funnel is two inches, a new lead washer placed over the opening should have a hole of;

$$x:2=3.5:4$$

$$4x=7$$

$$x=1.75 \text{ or } 1\frac{3}{4} \text{ inches in diameter}$$

Thus just by this simple method of collimating one can reduce the area of exposure considerably. The effect of reducing area of exposure is to reduce the source of scatter radiation. Consequently, a reduction in scatter radiation (1) reduces radiation received by the operator (2) gonadal radiation is reduced and (3) contrast and hence diagnostic value of the roentgenograph is increased.

(b) Reduction of Exposure Time

Many of the dental x-ray film manufacturers are supplying ultra-speed radiographs. It is quite possible to obtain a clear picture with maximum blackening and contrast (and at the same time reduce x-ray exposure dose) by using 85 K.V.P. at $3/10$ of a second with the long cone technique. All potential advantages of fast film can be lost by under development, and this plus overexposure not only fails to reduce patient dose but produces a roentgenograph which is drastically inferior.

(c) Elimination of Tube Leaks

Radiation coming through the tube housing in any direction outside the main beam, must not exceed 100 milli-roentgens per hour, at a distance of about 3 feet from the x-ray source, when the unit is operating at maximum voltage and amperage. This means that on a one second exposure the dose at 3 feet from outside the direct beam must not exceed .03 milli-roentgens. On the housing itself the dose would be one milli-roentgen.

To determine if one is not exceeding the above maximum dose, as well as gaps in the unit, one can carry out the following simple procedure. Place a large

radiograph around the head. Expose it for 10-20 seconds. On processing the film, gaps or general leakage will be easily seen as heavy blackening. Such areas can be easily protected by fixing a sheath of lead around the housing. Sufficient lead should be added so that on re-exposure the radiograph should show a uniform level of very light grey. This would then indicate no further leaks.

(d) Screen the patient

By the use of a lead apron it is possible to reduce the gonadal air-dose from inevitable scatter radiation to a great extent. Children who have shorter torsos, receive $2\frac{3}{4}$ times the gonadal air-dose than adults. It is thus highly advisable to drape children as well as adults across the pelvis with a lead apron during exposure to radiation. In the adult it should be made sure that the apron fits around the abdomen and extends down to the knees. Tests carried out at the University of British Columbia have indicated a 96.5 per cent reduction in gonadal air-dose with the use of a lead apron. By using a lead apron, reducing the number of x-ray films (especially in children), using ultra-speed roentgenographs as well as intensifying developer, the total exposure to the gonads can be reduced to 98.5 per cent in a full mouth survey.

By reducing the dose to the patient you automatically reduce the scatter radiation to minimum. However, it is possible that the exposure to the operator will still exceed the permitted maximum dose. If this is the case, two further steps can be taken.

(a) Screen the operator

This entails the construction of a screen that will shield the operator during x-ray exposure. It is preferred that the screen be fixed rather than mobile and have an absorbing power of not less than five millimeters thickness of lead. Materials that can be used are, lead rubber, lead plastic or lead sheet sandwiched between two pieces of plywood. The dimensions of the screen will vary with available space. But as a minimum, it should be

three feet wide and six feet high. The appropriate weight of such a screen made from lead and plywood is forty pounds and thus must have adequate support. The screen should not be placed in the direct path of the x-ray beam, and the operator should have no direct view of the patient. For visual observation of the patient during exposure a mirror can be used to advantage if placed correctly.

(b) Stand back from the tube

If a screen cannot be used (due to lack of space) a less satisfactory method can be used. This is the use of distance as a safety measure. This is so, because it is known that the intensity of radiation decreases inversely as the square of the distance from the source. Thus a dose at six feet is a quarter the dose at three feet. However, when one compares the use of a screen with that of distance, it is quite likely that a distance required for a particular case (to obtain protection) may be so great as to be impracticable. But, as mentioned above, if there is no alternative to distance, all that can be done, is to make use of distance and make the distance as far as space will allow.

This can be done by the use of an extra long cable, or by the use of an electric wall switch, connected to the x-ray unit. The latter suggestion is preferred, because it makes the use of distance obligatory so that the operator will be at the required safe distance during each exposure, and it will thus be insured that the operator will have the maximum protection during exposures.

There are two other methods which have an effect of reducing patient dose; this is primarily a reduction in skin dose and a reduction in gonad dose, but to a lesser extent. These are, an increase in kilo-voltage and the addition of filters.

(a) Effects of Kilo-voltage

Increased kilo-voltage alters radiation in two ways; (1) More x-rays are produced and (2) the x-ray has more penetrating power. Due to the increased penetrating power, more radiation will

penetrate the skin and reach the x-ray film. Thus an increase in kilo-voltage will reduce exposure time and consequently reduce the amount of x-ray radiation received by the patient's skin. An increase in kilovoltage of 40 to 100, reduces skin dose by a factor of six. However, one draw-back results from increased kilo-voltage and this is decreased contrast on the roentgenogram which in turn impairs the roentgenogram's diagnostic value. In order to overcome this disadvantage of high kilo-voltage, and yet maintain its advantage (in which we are very much interested), a kilo-voltage is chosen between 40 and 100. The best seems to be 85 kilo-volts, for only a slight decrease in contrast is noticed and this hardly impairs diagnostic value. Table number 1 illustrates the effect of increased kilo-voltage.

Table No. 1

K.V.P.	M.A.S.	Exposure to Patient in Roentgens	Film Radiation in Roentgens
65	3.6	0.63r	0.05
70	2.8	0.56r	0.05
100	1.2	0.42r	0.05

(b) Effects of Filter

There are certain components in x-rays which have less penetrating power than others. These x-rays are absorbed by the patient's skin and thus they make no diagnostic contribution to the roentgenogram simply because they never reach it. However, they do one thing, and that is to increase skin dose. To eliminate these non-penetrating x-rays, a sheet of aluminum is placed between the source of x-rays and the patient's skin. But, because of the introduction of the filter there must now be an increase in exposure time. Even so, skin dose is still reduced and one does not cancel out the other. For example, the use of one m.m. aluminum filter interposed between x-ray beam and patient at 60 kilo-volts will demand an

increased exposure time of 25 per cent, but at the same time, skin dose is reduced by 40 per cent with a somewhat lesser reduction for gonad dose. The following table provides further illustrations.

Table No. 2

K.V.P.	Added M M filter	Roentgen Exposure to patient	Film Density
	0	0.66r	
70	0.5	0.52r	1
	1.0	0.42r	
	1.5	0.36r	
	0	0.58r	
90	0.5	0.42r	1
	1.0	0.36r	
	1.5	0.30r	

So far, I have discussed various methods one could follow to reduce x-ray hazards on x-ray equipment which is already used in the dental office. However, there is one aspect which is hardly if ever discussed, and that is, the reduction of radiation in the dental office by a new concept in design of x-ray apparatus. To give the reader an idea of what the author means he will outline several new concepts in design for x-ray units that are now being considered by leading authorities in the field of dental roentgenology.

(1) Long cone technique has become more and more popular with the average dentist because it exhibits better definition (2) less enlargement is needed and (3) the patient's skin receives less radiation. All these are in contrast to roentgenograms taken at shorter distances.

However there is one disadvantage to the use of long cone technique, and that is it proves to be too cumbersome in small offices. Therefore future dental x-ray units may be designed with the x-ray tube located near the back of the head instead of near the front of the head, (as is now the case). This would allow one to operate at an extended distance, normally afforded only by a long cone tech-

nique. This would be so, because the length of the visible portion of the cone would be the same as the conventional short cone. The remainder of the extended distance between the focal spot of the x-ray tube and the end of the cone, would be hidden within the head of the x-ray unit. With this new design, the cumbersome of long cone technique would be eliminated, while its advantages mentioned above, would be retained. Illustrated in figure 5 (c).

Aluminum filters used in dental x-ray equipment eliminate non-penetrating x-rays which are produced at the same time as the main penetrating beam. However, there is one disadvantage in the use of an aluminium filter and that is it produces a considerable amount of secondary radiation. This secondary radiation scatters in all directions and some passes through the opening in the lead diaphragm to expose patient and dentist. The closer the filter is to the opening of the lead diaphragm, the larger the dose of scattered radiation will be exposed to the patient. Figure 5 (c) illustrates an example of future concepts in design where the aluminum filter and the intact lead diaphragm are located deep within the head of the x-ray unit. Thus, the filter placed in this position will limit the area of the patient exposed to scattered radiation to almost the same area of the patient that is exposed to the primary x-ray beam.

Another new concept in future design is to decrease x-ray exposure to the patient's face by reducing the cross-sectional area of the primary x-ray beam. This in itself is not new. But what is new is that the reduction is brought about by changing from a round beam of 2¼ inches to a rectangular beam measuring 1¼ by 2¾". In addition to this, the second diaphragm in figure 5 (c) which is at the base of the open ended cone contains a rectangular opening to limit the primary beam so that it will correspond to the opening of the rectangular cone. The cone and the second diaphragm should be constructed so that they can be rotated as a

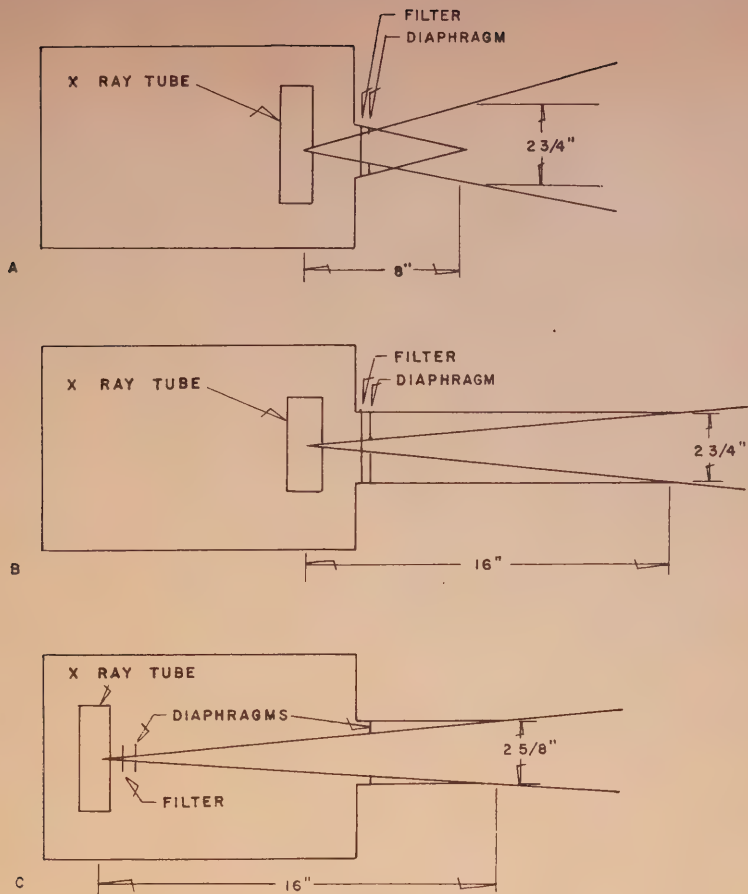


FIGURE 5

- (a) Diagram of head of conventional x-ray unit with pointed cone. (b) Diagram of conventional x-ray unit with long open ended cone. (c) Diagram of head of a future x-ray unit with repositioned x-ray tube and filter.

(Adapted from Richards in O.S., O.M. & O.P. Vol. 13, No. 2, p. 196)

unit through 90 degrees. In this way a greater dimension of the beam can be related horizontally for posterior bite wings and periapical examinations, while vertically for periapical examinations of the anterior teeth. In this manner exposure to the patient's face will be decreased appreciably.

The following is a summary of the methods used for protection against radiation hazards in the dental office:

- Collimation of the primary x-ray beam
- Reduction of the exposure time
- Elimination of tube leaks

- Screen the patient
- Screen the operator
- Stand as far from the tube as possible
- Using high kilovoltage to advantage
- The use of aluminum filters
- Future designs of x-ray units to limit the hazards involved.

CONCLUSION

The danger of radiation in a dental practice does not warrant a limitation in the use of x-rays. But, x-ray examination has never been and should never be a

substitute for careful clinical observation. If it is, this diagnostic tool is being abused, and such abuse is not merely wasteful but in fact, dangerous.

The fact remains however, that when radiation is used as a diagnostic tool in the dental office, there is the risk of producing undesirable effects on the people involved but by the use of careful technique and good functioning apparatus, these potentially undesirable effects can be reduced to negligible proportions. Thus any element of risk that could exist even under these conditions is far outweighed by the diagnostic benefits obtained from the use of roentgenograms. Good radiographic technique and the understanding of radiation are the two prerequisites for any dentist who operates dental x-ray apparatus. It is thus hoped that a greater awareness of the hazards and a broader appreciation of the implications involved may contribute to a reduction in the amount of radiation to which dentists, their assistants and their patients might otherwise be unnecessarily exposed.

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A Case History — Comments on Actinomycosis

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CASE HISTORY

On January 27th, 1960, A. H. a white male, aged 41, was referred by his physician for possible dental infection. On examination the patient presented an oral cavity reasonably well maintained, several carious areas, however nothing extensive, no visible areas of swelling or inflammation. The case history recalled that the

patient had a long medical history of duodenal ulcers and a gastric resection.

Several weeks previously he had noticed a swelling in the area of the left mandible. Although he had no ill feeling or tenderness, there was a considerably raised mass high in the left cervical area, not more than five or six millimetres below the area of the left sublingual gland. The mass was freely palpable but firmly attached to the deeper tissues. There was

no redness or tenderness of the area.

Radiographic examination showed considerable carious activity but with no apparent pulpal involvements and certainly no extensive gingival disease. In short there appeared to be no oral manifestation of this swelling. This report was made to the referring surgeon (E.N.T.) and the patient being a pensioner was referred to Sunnybrook Hospital, where he was admitted on Feb. 8, 1960.

On Feb. 11th, 1960 an operation was performed, mainly exploratory, and the area was opened. A purulent exudate was found which upon bacteriological examination proved to be actinomycotic in origin. The area was allowed to drain freely, systemic antibiotic therapy was instituted (massive doses of penicillin and sulpha) and the patient appeared to respond favourably and was discharged on March 3, 1960 with no further symptoms.

The patient was consulted again as to his proximity to cows and farm life in general and he recalls that he had purchased a farm the previous summer and had the habit of chewing upon straws. In July 1959 he had visited the farm and was chewing on a straw, which he says, became lodged in his throat.

COMMENTS

Actinomycosis is not rare and although there is a rural connotation here, it is certainly not limited to farmers or live-stock dealers. The importance of recognizing the disease and confirming the diagnosis is great because there is an effective treatment and prognosis is good.

The etiological agent is a gram positive,

branching micro-organism, about one micron in diameter. It is anaerobic and not found free in nature. The organism is present normally in the mouth and particularly around the gingiva and carious teeth. It can also be found in the tonsils.

The cervical-facial area is most commonly affected with frequent appearances in the chest and the abdomen. Involved tissues at first become hard with suppuration, but it spreads to adjacent structures, forming multiple draining sinuses that all associate with the disease. They may involve subcutaneous tissue, mostly lymph nodes, mesentery, one or any large organ. Necrosis finally develops and the abscesses discharge "sulphur" granules. The cervical involvement is usually secondary to dental extraction or a fracture of the mandible. The mandible is usually affected at the angle with subsequent involvement of the neck and face.

Early in the disease there are no symptoms, but occasionally a mild fever. Although the symptoms are mild, spread may develop to the lungs and pleura also with accompanying mild symptoms. Eventually fistulae and abscess formations appear accompanied by high temperature, debility and leukocytosis. Dissemination can occur by penetration of a blood vessel and appears metastatic.

Treatment consists of drainage in the abscessed areas or excision of severely infected lobes of the lung, or other organs and accompanying antibiotic therapy. The drugs of choice are penicillin, tetracycline, chloramphenicol and sulfadiazine. Treatment should be maintained for not less than a period of four weeks.

3007A Bathurst St.

DENTAL HEALTH DAY (ONTARIO)

Wednesday, March 15, 1961

EDITORIAL

Expression of Opinion

Those of us in practice dare not sit idly by unmoved by progress, for dental practitioners can make or break the future of dentistry. The pages of your Journal are open and invite thoughtful observations and expressions of opinion on any and all aspects of dentistry no matter how controversial. During the evolutionary processes presently gripping health services, the individual dentist's participating concern is not only desirable, it is essential.

Dentistry is composed of several large and significant groups, practitioners, teaching and research institutions and administrative organizations. Collectively these three form a strong and dedicated profession in persistent pursuit of better dental health for everyone and the ultimate banishment of dental diseases.

With our goal before us of eventually eliminating the need for dental treatment, each great section of our profession determinately inches ahead. Until this end is

achieved none of us is willing to yield to the temptation of lowering our standards. The end will never justify this means. There are so many exciting and challenging new approaches for dentistry that rather than being discouraged, we as a profession should probably be exhilarated.

Dental practitioners are just now beginning to shake themselves free of the ancient belief that they alone must do everything for the patient but telephone for the initial appointment. One cylinder practices are on their way out and are being supplanted by dental teams of highly trained auxiliaries working under the supervision of graduate dentists. In this way the standards of treatment remain untouched but the efficiency and quantity of services increase.

Teaching institutions of necessity must find the means of training these auxiliaries without losing ground in the process of the training of dentists. Granted, this is no little problem that has been tossed into

the laps of our academic leaders and it will require thought, money and generous measures of cooperative effort to see it through. It can be done however because it would seem that there is no reasonable alternative.

The dental administrators try to interpret public demands and relate them to public needs, to determine and where possible anticipate and direct political participation, and to inform both practitioners and teaching institutions of what lies in the jungle ahead.

No one section of dentistry could survive long in terms of usefulness without the integrated cooperation of the others. It is the time now for the exchanging of new ideas and the formulating of new plans and new methods. It is a time for daring but wise collective ventures into a new age of dental thinking. Dr. Paul Jesserich, president of the American Dental Association observes. "Our chief enemies

are complacency and inadequate public relations, both within the membership who render dental service to the public and among those responsible for the support of our profession. Some of our profession have a tendency to resist change, to remain in a comfortable niche, or blind themselves to the needs of the public and our profession in a changing era."

We must and can progress in spite of all apparent handicaps. If carefully planned and timed, the structure of our profession can be strengthened by reasonable changes which in turn will permit a needed increase in the production and distribution of dental care. Again from Dr. Jesserich these words. "The environment of the next one hundred years will be no place for the static, the stagnant, the complacent or the smug. It will need men of courage and vision, who dare greatly and dream greatly for the fulfillment of their rights and above all men who make their work catch up with their dreams."

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BOOK REVIEWS

Oral and Dental Diagnosis

Prepared by: Kurt H. Thoma and Hamilton B. G. Robinson.

Published by: W. B. Saunders Co.

Pages: 549-975 illustrations. Price: \$11.00.

This book is now in its fifth edition. The more mature members of the profession will recall it as Oral Diagnosis and Treatment Planning by Kurt H. Thoma, in which form it was published as a ready reference for the practitioner.

In the fourth edition, Dr. Hamilton B. G. Robinson became co-author, and the book underwent a great deal of revision in both form and material to serve not only as a ready reference to the practitioner, but to act as a textbook for the student in his oral diagnosis course—which course was being developed by the various dental schools largely through the efforts of Dr. Thoma.

In its present edition, the form of presentation remains much the same but new and increased emphasis is rightly placed upon the performance of the diagnostic examination, with some new illustrations in this area. The authors are both well qualified to write

a textbook, and have had vast experience in this particular field of dentistry.

The text is divided into two parts: I. Diagnosis and Treatment Prescription; and, II. Diagnosis of Oral Disease.

In Part I., the reader is familiarized with the reasons for, and the methods of making a thorough investigation and evaluation of his patients, with emphasis placed upon the actual performance of the diagnostic examination.

The divisions of the case history are well presented. The physical examination is adequately covered. Laboratory tests and special examination methods are discussed in a brief but concise manner.

A chapter is devoted to x-ray examination, in which many useful techniques are discussed. Useful exposure tables for both 90 K.V.P. and 15 M.A. and 65 K.V.P. and 10 M.A. for various lengths of cones, will be found in this chapter—a handy reference for those who are now using the faster films and the higher K.V.P. in their offices. More prominence is also given to safety precautions, and the reduction of radiation to the patient.

The author states, "Before one can diagnose a given disease, prescribe and work out a treatment program, it becomes necessary to know the etiology, signs and symptoms, pathologic change, course and probable complications of each condition." Part II., The Diagnosis of Oral Disease, is designed to give this information to the reader.

The material is developed in an orderly and readable fashion, following the anatomical divisions of the oral tissues, such as, the head and face, the lips, teeth, periodontal disease, tongue, palate, etc., etc. The descriptions, although brief, are concise and adequate for the dental student and are excellent as a quick reference for the busy practitioner. Where treatments are known, a brief mention is made of effective therapy.

There are 975 illustrations, 25 of them in color. These illustrations are pertinent to the material presented and augment the written text extremely well. It is unfortunate that all illustrations of pathologic change in textbooks cannot be in color. In spite of the greatly increased cost, there may be some who would be willing to pay the price.

If your library does not contain a recent edition of this book, I would recommend this fifth edition, both for the dental student and the practising dentist. There is a wealth of information packed into a compact, well-written, and well-illustrated text.

R. H. Bingham

Oral Pathology

Prepared by: Donald A. Kerr and Major M. Ash, Jr.

Published by: The MacMillan Co. of Canada.

Pages: 205—151 illustrations. Price: \$6.00.

The authors have recognized the hygienists' need for a single textbook covering both the principles of general pathology and the specific field of oral pathology. Bearing in mind the depth of training required by hygienists, the context is sufficient to show, in the main, how abnormal reactions affect specific tissues and also how they may cause disturbances in other parts of the body. That these are not haphazard phenomena, but are the result of disturbed biological laws is thus made more apparent. The student will realize that disease processes are the logical results of the interplay of many forces, some of which are known and some yet to be appreciated.

The first four chapters deal with principles of cellular biology, the causes and mechan-

isms of disease, inflammation in its broadest sense and then degenerative changes and metabolic disturbances. In discussing these topics the pertinent and related facts are presented without much attempt to provide the explanatory physiologic reasons connecting them. This, I suspect, is policy and not oversight and is in keeping with the object of simplicity. The seven remaining chapters are devoted to oral pathology. In them are discussed developmental disturbances affecting the face and jaws as well as the teeth proper. The background of the aetiology and classification of periodontal diseases and the prophylactic problems dealing with stains and accretions are covered. A chapter each is devoted to the broad problem of dental caries, to diseases of the dental pulp, the commoner stomatitis, and the final chapter covers the field of tumours and their occurrences and relations to the oral cavity.

The text as a whole is arranged in such a way that the student need not have an extensive knowledge of histology to appreciate the material being presented. For use as an undergraduate text the instructor can amplify any aspect and fill in details that he may wish to emphasize. On the whole the authors have accomplished very well the presentation of a primer on pathology for dental hygienists.

H. A. Hunter

Atlas of Clinical Pathology of the Oral Mucous Membrane

Prepared by: B. J. Orban and F. M. Wen'z.

Published by: The C. V. Mosby Co.

Pages: 148—illustrated. Price: \$14.50.

The success of the first edition proved the great need for such a book as this, and warrants the printing of this second improved edition. In keeping with an atlas style of book, all unnecessary detail is eliminated so that the reader does not have to do extensive reading to pick out the information that he is seeking. This book would be an asset in the office of every general practitioner, as it would be a great aid in diagnosing any one of the seventy-five oral diseases discussed.

There are colored pictures of each disease, although some of them could be improved by enlarging certain parts of the pictures, by the use of arrows to designate specific areas, and by the use, if possible, of cameras with a greater depth of focus. The colour of most of the pictures is excellent but some could be improved to give a more realistic impression of the true clinical appearance.

This book does not take the place of textbooks on periodontics and oral pathology, but should stimulate further reading on those subjects. There is listed for each disease, the clinical features, etiology, differential diagnosis, frequency, therapy and course of the disease. The therapy suggestions are up to date. The histo-pathologic descriptions and pictures of the tissue sections for each disease are an aid to the general pathologist, who may not be familiar with the slight pathologic differentiation of what may appear to be similar lesions of the oral cavity.

There is another reason why the dental practitioner should have this book for reference and that is, the dental profession's responsibility to diagnose oral diseases.

Donald S. Moore

Xylocaine—Prepared by: Sten Wielsing.

Published by: Almquist & Wiksell, Sweden.
Pages: 146.

Dr. Wielsing has written a very concise and clear account of all the experimental and clinical investigations, which took place before Xylocaine was presented to the professions for clinical use.

The book itself comprises of seventeen short chapters which deal with the chemical and physical make-up of the drug, its action on almost every tissue and organ, and its toxicology. It is rather difficult scientific reading, but it certainly unfolds a most interesting drama of the research world. The fact, that Xylocaine has withstood the test of time and use so well, is good evidence that all the work that went into its production was well worthwhile.

Dentists should know as much as possible, about any drug that they use. For this reason, this reviewer would suggest, that they get this book from their library and read it. It is not a reference book for frequent use as such, and therefore, possessing an individual copy is not really indicated.

A. A. Antoni

Internal Medicine in Dental Practice

Prepared by: L. H. Collins and M. P. Crane.
Published by: The Macmillan Co. of Canada Ltd.
Pages: 555. Price: \$8.50.

The authors of this fifth edition, of "Internal Medicine in Dental Practice" have succeeded in their goal of presenting to the practitioner of dentistry and the dental student, a relatively simple and practical text that will afford the reader "a speaking knowledge" of contemporary internal medicine.

The text embodies the teaching of general medicine, which is given to dental students at the University of Pennsylvania, and it stresses the recognition of signs of systemic disease which the alert dentist may well be the first to recognize. All systems of the body appear to be fully covered, and recent advances have been incorporated in this edition.

Stress is naturally placed on dental relationships and deviations from the normal are well portrayed; for example, the cyanosis of the lips and tongue which accompanies congestive heart failure, congenital heart disease and polycythemia; the dehydration of diabetes, severe systemic infections and chronic mouth breathers; the gingival changes with Dilantin therapy for epilepsy, etc.

In the chapter on "Arthritis and Allied Conditions," it would seem unfortunate that rheumatoid arthritis, spondylitis, psoriatic arthritis and even fibrositis have been included under "Forms of Arthritis Due to Non-specific Infections." There is no evidence that these conditions are due to non-specific infections, and one wonders why the authors do not use the somewhat controversial but accepted classification of the American Rheumatism Association.

The reviewer joins with the authors in regretting that space is not available for a section on psychiatry, particularly on psychosomatic complaints, which must be recognized by the dentist as well as the physician. However, this book would be an excellent addition to any dentist's or dental student's library.

J. W. Graham

CANADIAN DENTAL ASSOCIATION RETIREMENT SAVINGS PLAN

Statement of Unit Valuations as of August 31st, 1960

GOVERNMENT BOND FUND

Investment at market value	\$112,949.22
Accrued income (interest)	501.29
Cash on deposit	12.86
	(DR)
TOTAL	\$113,437.65
Less: Administration fee— $\frac{1}{8}$ of 1% of \$113,437.65	141.80
MARKET VALUE OF FUND	\$113,295.85
Units outstanding	10,651,300
UNIT VALUE OF FUND	\$ 10.636

CORPORATE BOND FUND

Investment at market value	\$193,617.44
Accrued income (interest)	941.12
Cash on deposit	11.37
TOTAL	\$194,569.93
Less: Administration fee— $\frac{1}{8}$ of 1% of \$194,569.93	243.20
MARKET VALUE OF FUND	\$194,326.73
Units outstanding	\$17,498.767
UNIT VALUE OF FUND	\$ 11.105

COMMON STOCK FUND

Investment at market value	\$372,681.51
Accrued income (interest)	
Cash on deposit	437.26
	(DR)
TOTAL	\$372,244.25
Less: Administration fee— $\frac{1}{8}$ of 1% of \$372,244.25	465.30
MARKET VALUE OF FUND	\$371,778.95
Units outstanding	30,896.220
UNIT VALUE OF FUND	\$ 12.033

Trustee: The Royal Trust Company

Information about the C.D.A. Retirement Savings Plan is available from Mr. J. T. Staddon, 2249 Yonge St., Toronto 7, Ont. Telephone HU. 1-5731.

THE ASSOCIATION

FTC Says Stop Dentifrice Claims

The Federal Trade Commission of the United States has ordered the Colgate-Palmolive Company to stop saying that its Colgate dental cream with gardol provides complete protection against tooth decay. The company intends to appeal the decision and says that it "has never claimed or intended to imply complete protection for any of its dentifrices".

In defending itself against the FTC complaint, the company said it had voluntarily dropped the invisible shield theme from its advertising and thus a cease-and-desist order would serve no purpose not already accomplished. The FTC examiner disagreed, saying there was "reasonable likelihood that respondent will in the future misrepresent the true properties of Colgate dental cream with gardol unless an order to cease-and-desist therefrom issues". The FTC decision is not final.

Fluoridation In U.S.A.

As of August 2, 37.5 million people in the U. S. were living in communities with fluoridated water supplies. This represents about 21% of the nation's population. The U.S. Public Health Service also reports that 1,932 communities and 1,091 water supply systems are involved.

Fluoridation In Switzerland

Aigle, Switzerland, a town of 4,500 people, on June 25 became the first community in that country to fluoridate its water supply.

Fluoridation In Netherlands

It has been announced that the Netherlands government will soon promulgate a "water works decree" under which it will be possible to add fluoride to drinking water in order to fight dental caries.

A recent report of the Health Council recommended fluoridation. The health minister says the government will confine itself, for the moment, to giving information on the subject but he will give his approval to requests to fluoridate water supplies.

New Publications Welcomed

Two new publications have been added recently to the field of dental journalism, both in Quebec. "Information" is a bilingual news letter type of publication of the Quebec College of Dental Surgeons for its members. The Montreal Dental Club has just distributed the first issue of its "News and Views". Both these publications should be well received by their readers.

Dental Care For Aged In B.C.

For about three years the College of Dental Surgeons of British Columbia has had under study a dental care program for Senior Citizens. Initially a plan was developed whereby these citizens could be served in a clinic arrangement. Government assistance was sought for provision of necessary physical facilities for such a clinic. This support was not obtained. The B.C. Council then turned its efforts towards a plan to allow the elder citizens to be treated in the dentist's own office. This idea offered greater convenience to dentists and more personal treatment of elder citizens, without the possible stigma of going to a clinic. This plan has been instituted by the Victoria Dental Society under the sponsorship of the B.C. College.

British Columbia has a special problem in respect to older citizens. Statistics show that there are 150,000 citizens, about 10% of the B.C. population, over 65. The percentage for Canada as a whole is 7.7%. Of these 150,000 in B.C. about 100,000 do not qualify for supplementary assistance and are not eligible for free dental and medical care. Purpose of the B.C. College plan is to help citizens in this age group who are not entitled to assistance elsewhere.

The Silver Threads Service, which co-ordinates and directs activities of all elder citizens' organizations in the Greater Victoria area is cooperating with the Victoria Dental Society to implement the plan. This agency will assist in screening applicants according to the degree of need of the individual case needing denture service. The College is working out a plan to reimburse dentists performing the service for their out-of-pocket expenses. The trial period will end December 31, 1960. Then its operation will be re-

viewed and evaluated. If it proves successful the B.C. Council will take steps to establish similar schemes in other areas of the province.

Best Health Coverage Wanted

—from "Medical Economics" Aug. 15, 1960.

They want the best health coverage: Near-complete tallies show that among the 1,800,000 federal workers who recently signed up for health insurance for themselves and their dependents, 80% picked the costliest, most comprehensive plans available.

Saskatchewan Post-Mortem

—From Canadian Actuarial Bulletin

Saskatchewan's provincial election on June 8 was won by the Co-operative Commonwealth Federation, Canada's official socialist party. Of the province's 55 seats, 38 were won by the C.C.F. and 16 by the Liberals and the election in one remote constituency was deferred. The two other opposition parties, Progressive Conservative and Social Credit, won no seats. The popular vote, compared with the popular vote in the 1956 election, was as follows:

	1960	1956
C.C.F.	41%	45%
Liberal	33%	30%
Progressive Conservative ...	14%	2%
Social Credit	12%	22%
Others	..	1%
	100%	100%

The C.C.F.'s main platform was to bring Saskatchewan (pop. 907,000, about 5% of Canada's total) socialized medicine in the form of a compulsory pre-paid comprehensive medical plan with free choice of doctor, doctors being paid on a fee-for-service basis and the whole plan being financed in part at least on a premium basis. None of the three opposition parties really came out and opposed the C.C.F.'s plan. The Liberals talked of a referendum to see what the people wanted, the Conservatives talked of a Royal Commission to investigate and the Social Credits seemed to think that only the timing wasn't right.

Since the C.C.F. was the only party totally committed to socialized medicine, on the basis of the popular vote one might assume that for every two voters who were for socialized medicine, three were against it. But this might be wishful thinking. A former Liberal M.L.A. tells us that many citizens

whose principles did not allow them to vote C.C.F. would still have supported socialized medicine on a non-political referendum basis. The ex-M.L.A. said that there was a widespread feeling that many doctors were overcharging. He also said that the doctors' organized campaign against the C.C.F.'s plan actually rallied support for the C.C.F. and socialized medicine which otherwise would not have been forthcoming.

One thing is pretty sure, however, and that is that the mass of the voters didn't really understand the socialized medicine issue. Many were influenced by the fact that Britain has had socialized medicine for some years and that, by most accounts, it hasn't worked out too badly. These people didn't understand that Britain imposes many *de facto* restrictions on her doctors which Saskatchewan says she won't impose (she probably couldn't anyway: it's a lot easier for a doctor to move from Saskatchewan than for a doctor to emigrate from Britain) but without which the costs will go sky-high. Many were influenced by the fact that Saskatchewan had the first socialized hospital plan (subsequently followed, with Federal financial prodding, by most of the other provinces) and it had worked out pretty good. These people didn't realize that there is a fundamental difference between socializing hospitals and socializing medicine akin to the difference between socializing flour mills and socializing farmers. (Saskatchewan, predominantly agricultural, is a paradox. It is our one province with a formal socialist government and, at the same time, the one province where socialism can make little headway. Farmers who embrace socialism are as scarce as hens' teeth, except, like the rest of us, to the extent that they can get on the receiving end.)

As is usual with welfare state measures, the supporters of socialized medicine achieved victory by creating an image of poor people — in this case suffering for want of medical attention by reason of their inability to pay. The fact that no Canadian goes without necessary medical attention because of financial misfortune — and that much of our best medical care is provided free to indigents — doesn't seem to discourage the proponents of socialized medicine.

Paradoxically, the only real beneficiaries, at least financially, of socialized medicine will be the medical profession. In the absence of the controls which are needed but which no provincial government has power to enact and enforce, the total percentage of Saskatchewan's income diverted to medicine will mount rapidly and most of it will find its way into the hands of the profession. No longer will the ethics and traditions of the

profession require the doctor to do at least some free work and to charge nominal fees to low-income patients. (In spite of the criticism of the profession, much of this does go on.) Every citizen will now have an unlimited bank account, as far as medical bills are concerned, and if the citizen insists on unnecessary care — why turn him away? The citizen will have free choice of doctor and if he doesn't get what he wants from one doctor he'll get it from another.

There is, of course, a small group of fine citizens with low incomes, mainly elderly, who are not covered by the private pre-paid plans, who need extensive medical attention and who feel they should pay their doctors reasonable fees for the work performed. To the extent that there are some doctors who would charge such people amounts which would constitute real financial hardship, then socialized medicine will benefit this small group. But it seems a frightful price to pay to solve the problem of this small group if, in fact, the problem does exist.

Initially, the Saskatchewan plan will cost a family about \$10 per month through premiums, increased sales tax or whatever combination of taxes the Government chooses to impose. How far the cost will go beyond that will depend on how far it will be politically possible for the Government to go on controlling its citizens and their doctors.

Whether or not we have more socialized medicine in Canada will likely depend on political expediency, not ideology. All politicians will watch for the political success or failure of the tiger Saskatchewan has by the tail.

New Brunswick To Give Up Hospital Insurance Premiums

—From Canadian Actuarial Bulletin

A major issue in the provincial election in New Brunswick (pop. 600,000) on June 27 was the compulsory monthly hospital insurance premiums of \$4.20 for a family and \$2.10 for an individual which had been in effect since the Province's Hospital Care Insurance Plan was introduced in July, 1959. The opposition Liberal party campaigned for a removal of premiums and this stand gained much support, particularly from the lower income groups who preferred some type of progressive taxation and from the municipalities who were having difficulty in collecting the compulsory premiums on behalf of the Province.

The Liberals won the election with 53% of the popular vote. The new standings in the Legislature, compared to the standings resulting from the 1956 election, are:

	1960	1956
Liberals	31	15
Progressive Conservatives ..	21	37
	52	52

The new Government has already instructed employers to make no further payroll deductions in respect of hospital insurance premiums.

With the change-over in New Brunswick there will be only four provinces (Saskatchewan, Manitoba, Ontario and Prince Edward Island) which attempt to finance their costs of provincial hospital insurance out of compulsory premiums. As yet, Quebec has no plan.

During the New Brunswick election campaign the Liberals did not make it clear where they would obtain the funds to replace the revenue from premiums although they did promise not to increase the Province's 3% sales tax. If this is to be the case, presumably a good part of the revenue will have to come from a slow-down in the construction and repair of roads and other public works.

Manitoba Increases Hospital Premiums

—From Canadian Actuarial Bulletin

With respect to coverage beginning on January 1, 1961 (for which premiums are payable in advance) the compulsory monthly premiums for the Manitoba Hospital Service Plan have been increased from \$2.05 to \$3.00 for a single person and from \$4.10 to \$6.00 for a family. The previous rates had been in effect since the plan was instituted in July, 1958.

The substantial increase in premiums was made necessary by a significant operating deficit which was becoming apparent and by the probability of further increases in operating costs.

The new premiums were criticized by organized labour spokesmen who felt that the ability-to-pay principle should be introduced into the financing of the plan. There was also some criticism from the municipalities who have the problem of collecting premiums from residents not covered by employee groups.

Important Change In Estate Tax Act

—From Canadian Actuarial Bulletin

As promised in this year's Budget Address the Estate Tax Act has been amended so that in respect of deaths occurring after 1958 where the beneficiary of the deceased paid estate tax on an annuity left by the deceased and where the annuity ceased within four

years after the death of the deceased (e.g. by reason of the beneficiary's remarriage, death or whatever) a refund of estate tax paid may be obtained if the actual amounts received from the annuity turned out to be less than anticipated by the mortality tables used in determining the original amount of estate tax payable.

This amendment, while removing to a

degree an inequity in the Act, still does not solve the problem in the case of annuities which cease after four years.

There will be a fair number of widows and other beneficiaries already entitled to a refund under this amendment and every effort should be made to notify them of it. There is a time limit on applications for refunds.

BUREAU OF ECONOMIC RESEARCH

Average Income of Canadian Dentists, 1958

Taxation Statistics, an annual publication of the Department of National Revenue, recently released statistics on Canadian taxpayers by occupation for the year 1958.

A dentist, according to Taxation Statistics' terms of reference, is one "engaged in practice for profit" and does not include those members of the profession working on salary. This represents 80 per cent of the members of the profession. The dentist who works on

a salary basis is classed as an employee.

4,579 dentists filed returns in 1958; of these 100 earned too little to be taxed.

The average income of the 4,479 dentists filing taxable returns was up 4 per cent from 1957 to \$10,662. This put the independent dentist in the top 2.9 per cent of the income tax payers of Canada. In terms of occupational groups, dentists rose from their 1957 position of fifth to fourth place in 1958, following doctors, engineers, architects, and lawyers.

Occupation	1958		1957
	Number	Average Income	Average Income
Doctors and surgeons	12,201	\$15,264	\$13,978
Engineers and architects	2,109	14,260	14,581
Lawyers and notaries	7,133	13,163	13,244
Dentists	4,479	10,662	10,234
Accountants	3,826	10,627	10,879
Investors	96,318	6,281	6,233
Other professions	8,157	6,248	5,711

Income Class	Number	Per Cent	Cumulative
			Per Cent
Under \$2,000	80	1.7	1.7
\$ 2,000 - \$2,999	120	2.7	4.4
3,000 - 3,999	230	5.2	9.6
4,000 - 4,999	330	7.3	16.9
5,000 - 5,999	251	5.6	22.5
6,000 - 6,999	289	6.5	29.0
7,000 - 7,999	354	7.9	36.9
8,000 - 8,999	348	7.7	44.6
9,000 - 9,999	337	7.6	52.2
10,000 - 14,999	1,271	28.3	80.5
15,000 - 19,999	587	13.2	93.7
20,000 - 24,999	167	3.7	97.4
25,000 and over	115	2.6	100.0
	4,479	100.00	

More than one-half of the independent dentists made over \$9,000; more were in the \$5,000 to \$10,000 class than in any other grouping of incomes. Almost 20 per cent made \$15,000 or over and 6.3 per cent made \$20,000 or over.

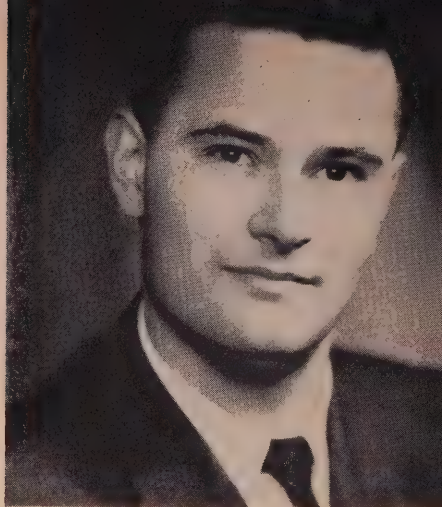
The average dentist in private practice paid \$1,755 in income tax in 1958. 92.6 per cent of total reported income from dentists was professional income while 1.6 per cent was from wages and salaries and 6.8 per cent was from other sources. 11.6 per cent (\$332) of exemptions and deductions fell in the donations, medical, and standard deductions category.

The average income for dentists by province shows that Manitoba had the highest paid dentists while Prince Edward Island had the lowest.

Province	Number of Reporting Dentists	Average Income
Manitoba	177	\$12,294
Saskatchewan	206	12,233
British Columbia	537	12,073
Ontario	1,886	11,603
Alberta	340	11,526
Nova Scotia	99	10,768
Newfoundland	33	9,273
Quebec	1,045	7,873
New Brunswick	123	7,675
Prince Edward Island	28	6,607

Taxation Statistics' analysis of personal income is based on a study of a sample of tax returns filed by individuals. Therefore, in small groups considerable distortion may result. It is well to bear this in mind when comparing the average income for dentists in different provinces.

*Dr. F. H. Compton, Editor,
Journal of the Canadian
Dental Association.*



COUNCIL ON JOURNALISM

Dr. F. H. Compton appointed editor

The Council on Journalism takes pleasure in announcing that beginning October first 1960, Dr. F. H. Compton has accepted the position of Editor of the *Journal of the Canadian Dental Association*. Consistent with the growth of the national association this post will be assumed on a full time basis.

Dr. Compton's past reveals a series of competent services to his profession coupled with a very significant literary ability. His quiet but forceful enthusiasm for dentistry will add handsomely to the dignity and strength of our national association.

Subsequent to his basic education in England and Switzerland Dr. Compton received his undergraduate dental training at the Royal Dental Hospital of London (University of London, England), graduating with a B.D.S. degree in December 1947.

Prior to obtaining his D.D.S. degree at the Faculty of Dentistry, University of

Toronto in 1949 Dr. Compton was a dental intern at the Royal Victoria Hospital in Montreal. An appointment as dental health officer for the City of Ottawa consumed his interests for the next four years at which time he yielded to the desire for further training to receive a diploma in dental public health from the Faculty of Dentistry and School of Hygiene, University of Toronto in 1953.

From that time until now Dr. Compton has been the Director, Division of Dental Services, for the City of Toronto Department of Public Health and special lecturer in dental public health at the Faculty of Dentistry, University of Toronto.

The future years offer him opportunities to exploit his youthful and vigorous reserves of unfettered ability. By his association and by the retiring editor, Dr. Compton is wished whole heartedly good health and happiness and the enriching satisfaction of serving his national association in this position of responsibility.

THE CORPS

Corps Conference Held in Ottawa

Commanding Officers of Regular Force Dental Units and their Quartermasters from across Canada attended a DGDS Study Period and Corps Conference in Ottawa and Camp Petawawa, September 28-30. Members of the RCDC Militia Advisory Staff were invited to attend certain portions of the conference.

The meeting was held under the direction of Brigadier K. M. Baird, Director General of Dental Services and chaired by Colonel G. B. Shillington, Deputy Director General of Dental Services. Papers were presented and discussions held on subjects related to the operation of the R.C.D.C.

A cocktail party and buffet dinner was held at the Army Headquarter's Officers Mess on the evening of September 29.

On September 30 the conference moved to Camp Petawawa to inspect the new facilities of No. 1 Dental Equipment Depot and meet with the Quartermasters who had been in conference there for the previous two days.

Commanding Officers attending were:

Colonel I. A. L. Millar—No. 11 Dental Company, Edmonton.

Colonel B. P. Kearney — The R.C.D.C. School, Camp Borden.

Colonel A. C. Leman—No. 13 Dental Company, Trenton.

Colonel T. L. Marsh—No. 15 Dental Company, Montreal.

Lt.-Col. C. E. Purdy—No. 14 Dental Company, Winnipeg.

Lt.-Col. A. T. Roger—No. 12 Dental Company, Halifax.

Captain Scott Returns From Europe

Capt. J. B. Scott of Campbellton, N.B., has returned to Canada following a three-year tour of duty with No. 4 Field Dental Company in Germany. He is posted to Camp Borden, Ont.

Captain Eadon to Alert, N.W.T.

Capt. J. F. Eadon of Fort Churchill has joined the select few who have provided dental treatment within 500 miles of the North Pole by virtue of a trip to the Canadian Army's northernmost unit at Alert, N.W.T.



R.C.D.C. FLASHBACK

RCAF Station, Trenton, November 1942.

Major Brick Competes in D.C.R.A.

Major J. C. Brick of the Directorate of Dental Services, the R.C.D.C.'s top marksman, narrowly missed making the Bisley Rifle Team when he competed in the Dominion of Canada Rifle Association's annual meet held in Ottawa in August.

Postings in Canada

The following postings of dental officers have recently taken place in Canada:

Captain J. R. Boulay from the R.C.D.C. School to R.C.A.F. Station, Winnipeg.

Captain H. J. Cashin from R.C.A.F. Station, Winnipeg, to R.C.A.F. Station, Moose Jaw.

Captain D. A. Warrick from The R.C.D.C. School to Camp Ipperwash, Ont.

Captain Lanthier Replaces Captain Reynolds in Middle East

Capt. R. Lanthier of Sudbury, until recently stationed at Calgary, has been posted for duty with the United Nations Emergency Force in the Middle East. He replaces Capt. L. A. Reynolds of Queensport, N.S., who returned to Canada in September for employment at R.C.A.F. Station, Penhold, Alta.

Releases

The following officers have taken their releases from the Corps on completion of their tours of duty and will enter private practice at the locations indicated:

Captain L. Dombowsky—Weyburn, Sask.

Captain C. J. Edwards, Edmonton, Alta.

Captain V. A. Low—Creston, B.C.

Captain F. J. McCurry—Midland, Ont.

THE PROVINCES

ALBERTA

University of Alberta, Faculty of Dentistry

On September 8 and 9, 1960, the seventh biennial Fall Refresher Course, Faculty of Dentistry, University of Alberta was held in the Medical Building. The address of welcome was made by Dr. L. H. Cragg, Vice-President of the University and Dean H. R. MacLean of the Faculty of Dentistry.

The guest speaker for the course was Dr. John F. Johnston of the Faculty of Dentistry, University of Indiana. He presented papers on:

1. Porcelain Veneers Bonded to Gold Castings.
2. Some Observations on Professional Responsibilities, Teaching Requirements and Fees as related to Crown and Bridge Practice.
3. The Application and Construction of the Pinledge Retainer.

Dr. George Gibb, Faculty of Dentistry, University of Alberta, presented a paper on "A Survey of Crown and Bridge Practices in Western Canada".

Table clinics were presented by Dr. George Gibb, Dr. D. Stewart, Dr. R. Yuodelis and Dr. M. Steen and Dr. C. Duke.

A panel discussion on "Expanding Dental Services—A Challenge to the Profession" was presented with Dr. C. W. B. McPhail as moderator. The speakers were Dr. H. K. Brown of Ottawa, Dr. S. R. Katz of Winnipeg, Dr. J. L. Wyatt of Medicine Hat and Dr. J. F. Johnston of Indianapolis, Indiana.

The large registration and the general enthusiasm of those attending testified to the success of this seventh Fall Refresher Course.

R. G. S.

BRITISH COLUMBIA

Peace River and District Dental Society

The society's regular meeting was held recently in Grande Prairie.

Dr. R. S. Van Alstine, professor of oral surgery at the University of Alberta, was guest clinician. His topic, pre- and post-operative care, dealt with the benefits of the use of drugs and some of their complications. The necessity of taking the patient's medical history before administering drugs was stressed.

Dr. Van Alstine also presented many slides to show various problems encountered in oral surgery and some of the more difficult problems which the general practitioner may do well to leave alone.

New officers elected were:

President: Dr. V. M. Erickson, Dawson Creek, B.C.

Secretary-Treasurer: Dr. P. M. Hapchyn, Dawson Creek, B.C.

Vice-president: Dr. J. M. James, Fort St. John, B.C.

Directors: Dr. M. M. Woronuk, Fairview, Alta. and Dr. L. P. Lyman, High Prairie, Alta.

The next meeting is to be held in September with Dr. Woronuk as host. It is hoped that Dr. J. Donovan Ross, Alberta Minister of Health, will be guest.

Pre-payment Plan

A year ago the B.C. Dental Association approved the principle of entering into pre-paid dental plans and authorized the executive to present an act to the legislature which would make the setting up of any such plans possible.

During the past year the Health Insurance Studies Committee has worked tirelessly and has evolved a plan which has been presented to the association members in booklet form. It is called the British Columbia Dental Services Association, A Plan for Pre-paid Dentistry in B.C.

At the recent annual meeting the matter was fully discussed and the committee's report was approved by the association.

D. H. M.

SASKATCHEWAN

Mrs. L. J. D. Fasken

The members of the profession, especially in the province of Saskatchewan will be sorry to learn of the death of Mrs. Fasken. She was one that endeared herself to everyone that knew her. She had always been keenly interested in the affairs of her husband and took a sincere interest in the well being of his associates.

Dr. L. J. D. Fasken was Secretary Registrar of Saskatchewan for a great many years until he retired, when he and Mrs. Fasken left to reside in Guelph, Ontario.

The sympathy of the profession is extended to Dr. Fasken and his family.

L. D. H.

ACADEMY OF DENTISTRY, TORONTO

ANNUAL WINTER CLINIC

ROYAL YORK HOTEL, THURSDAY, NOVEMBER 24th, 1960

Guest Clinicians:

Dr. Wallace J. Gardner, Cambridge, Massachusetts.

Subject — "Audio Analgesia".

Dr. Earl E. Sheppard, Professor of Orthodontics,
Washington University, St. Louis, Missouri.

Subject — "Interceptive Orthodontics".

We hope you will plan to attend this, the biggest one-day Convention in Canada. We can promise you an exciting and interesting programme in addition to the above clinics.

Room reservations can be made through Dr. Morley Hardy,
1048 1/2 Kingston Road, Toronto, Ontario. Telephone Oxford 9-3910

GENERAL NEWS

U.S. Fund for Dental Education Reaches New High

The Annual Report of the Fund for Dental Education which has just been published shows that in the first full year of operation of the Fund \$136,509.95 has been contributed by 50 individuals, corporations and foundations, Maynard K. Hine, D.D.S., president of the Fund, has announced. Contributions in 1958, the first year the Fund was in full-time operation, amounted to only \$47,000.

During 1959, the Fund made allocations and grants as follows: Three teaching fellowships in Anesthesiology, Periodontology and Paedodontics to future dental teachers studying at Pittsburgh, Alabama, and Indiana; a grant to the American Society of Oral Surgeons to hold a Planning Conference on Graduate Training in Oral Surgery; a grant to the University of Oregon to sponsor the first Conference and Seminar on the Teaching of Dental Economics and Practice Management held on the West Coast; special restricted grants to five dental schools; a grant to the American Association of Dental Schools which enabled that organization to hold the first conference of dental deans on the subject of dental school administration; a grant for a two-day conference on the Teaching of Dental Materials held at Northwestern University; and a grant toward the production of the ADA Centennial motion picture "Pattern of a Profession" which has been shown all over the country at radio, television, and group audiences. This picture, which is proving to be useful as a tool in dental student recruitment, has received a number of national awards including the Chris Award for excellence.

Although the Fund has not gone directly to the members of the dental profession for contributions, since many of them are now making annual gifts to their dental schools, an encouraging number of dentists are making contributions to the Fund in support of its program. These contributions may be restricted by the dentist for the use of certain dental schools or can be made for the overall programs of the Fund, Dr. Hine pointed out. A number of dentists have begun sending memorial contributions to the Fund

in lieu of sending flowers on the occasion of the death of a colleague, patient or friend. All contributions to the Fund are deductible for income tax purposes as a gift to education.

Copies of the Annual Report may be secured by writing the Fund for Dental Education, 840 N. Lake Shore Drive, Chicago 11, Ill.

Council Secretary Honored

Dr. Sholom Pearlman, secretary of the ADA Council on Dental Research, has been named to membership on the National Research Council to represent the ADA in the Division of Medical Sciences. The appointment, of three years' duration, was announced by Dr. Detlev W. Bronk, president of the National Academy of Sciences. Dr. Pearlman joined the ADA staff in 1951 and has held his present position since July, 1959.

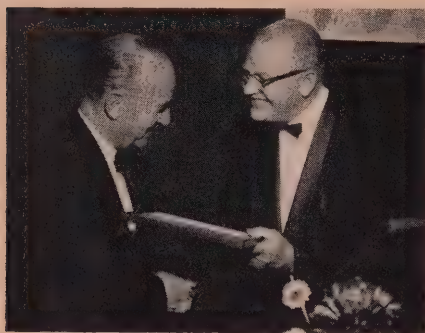
ADA Researcher Given Gies Post

Dr. George C. Paffenbarger has been elected to the Board of Directors of the William J. Gies Foundation for the Advancement of Dentistry. Dr. Paffenbarger is director of the ADA Research Division of the National Bureau of Standards. His term of office with the Gies Foundation extends until Jan. 31, 1967.

South Carolina

Citizens of Lancaster, S.C. recently voted 782 to 583 to reinstate the city's fluoridation program which had been initiated in 1951 by unanimous vote of the city council and discontinued in July, 1959, according to The Spartanburg Journal.

A referendum had been requested at Spartanburg by the water works board, but the action was opposed by a majority of the city council which favours early adoption of a program.



Dr. Wester Dahl, Secretary General presenting Dr. F. Martin with his masters degree in the College at the recent Convocation at Ottawa.

Photo by Newton Photographic Associates, Ottawa.



The following were admitted at the recent Convocation at Ottawa: Dr. Ephrem Vinet, Dr. Remy Langlois, Dean James McCutcheon, Dr. Harold G. Learoyd and Dr. Vincent J. Keenan.

Photo by Newton Photographic Associates, Ottawa.

International College of Dentists — Canadian Section

At a recent convention of the College at Ottawa, Ont., Sept. 29, 1960, Dr. Frank Martin was made a Master of the College and the following were admitted as follows:

- Dr. Ephrem Vinet—Montreal.
- Dr. Remy Langlois—Quebec.
- Dean James McCutcheon—Montreal.
- Dr. Harold G. Learoyd—Sutton, Ont.
- Dr. Vincent J. Keenan—Sudbury, Ont.

The following officers were elected:

Past President—Gerard de Montigny, Montreal, Que.

President—C. D. Husband, Red Deer, Alta.

President-Elect—Arthur Poyntz, Victoria, B.C.

Vice-President and Registrar — Douglas Tanner, Toronto, Ont.

Treasurer—Edgar A. White, Toronto, Ont.

Regents by Districts

- No. 1. William Miller—Vancouver, B.C.
- No. 2. R. R. McIntyre—Calgary, Alta.
- No. 3. Malcolm J. MacDonnell, Saskatoon, Sask.
- No. 4. W. G. Campbell—Winnipeg, Man.
- No. 5. James P. Coupland—Ottawa, Ont.
Deputy—Chas. M. Purcell, Pembroke, Ont.
- No. 6. Johnston W. Abraham—Montreal, Que.
- No. 7. J. Edgecombe—Saint John, N.B.

IN MEMORIAM

Samuel Paul H. Marlatt—Dr. Samuel Paul H. Marlatt of Powell River, B.C., died on July 21st, 1960. He was in his 75th year.

Born in Portage la Prairie, Manitoba, Dr. Marlatt graduated from Northwestern University in 1913. He had been a resident of Powell River since 1918 and had practised dentistry there until eight years ago when failing health forced him to close the practice.

During the First World War Dr. Marlatt served as a Captain in the Dental Corps. He was a charter member of the Canadian Legion and a past president of the group, also serving as sergeant-at-arms for many years.

Surviving is his sister, Mrs. A. M. Farr; two brothers predeceased him.

Arthur William Chambers — Dr. Arthur William Chambers of Ottawa, died on August 21st. He was 75.

Dr. Chambers was born in Bournemouth, England. He received his early education in Toronto and graduated from the R.C.D.S. of Ontario in 1917. He practised in Ottawa until his retirement in 1959.

Dr. Chambers was a member of the Canadian Militia from 1920 to 1939 and the R.C.A.F. From 1917 to 1920 he was a Captain in the Canadian Dental Corps. He was a member of Scottish Rite Masons, Ottawa Lodge of Perfection, Murray Chapter of Rose Croix, Defenders Lodge A.F. & A.M., and a life member of the Ottawa Grand Opera Association Executive.

He is survived by his wife Anne; a son, Vincent; daughter, Pauline; brother, Harold,

and two sisters, Mrs. W. E. Phillips and Mrs. M. R. Yirak.

Joseph Clarence Augustus Crawford—Dr. Joseph Clarence Augustus Crawford of Haileybury, Ontario, died on July 18th, 1960. He was 98.

Dr. Crawford was born at Georgetown, Ontario and received his early education at Haileybury. He graduated from the R.C.D.S. of Ontario in 1907 and set up practice in Haileybury.

He was on the Board of Governors of the Ontario Dental Society for three years. Dr. Crawford was past president of the Rotary Tennis and Curling Club and past preceptor of the Temiskaming Rameses Temple.

Surviving are his wife, Agnes and sister Barbara.

Charles E. Beaulieu—Dr. Charles E. Beaulieu of Granby, P.Q., died on November 9th, 1959. He was 71.

Dr. Beaulieu was born at Ste. Françoise, Co. Temiscouata, Quebec, in 1888 and graduated from the University of Montreal in 1920.

Anatole Bernier—Dr. Anatole Bernier of Asbestos, Richmond, P.Q., died on July 24th. He was 44.

Dr. Bernier was born in Quebec City in 1916 and graduated from the University of Montreal in 1943.

UNIVERSITY OF TORONTO
FACULTY — ALUMNI CLINIC DAY
25 November 1960

The Dental Alumni Association in conjunction with the Faculty of Dentistry will again hold its annual Faculty-Alumni Clinic Day. This all day program will be held in the new Dental Building on Friday, 25th November, 1960. This is the day following the Academy's winter clinic and will be a very interesting and worthwhile week-end especially for out-of-town members of the profession.

Programme

Place: Auditorium, Faculty of Dentistry, 124 Edward St.

9.30- 9.45 Welcome by Dean R. G. Ellis, D.D.S., M.Sc.D., F.D.S.R.C.S.

9.45-10.45 Dr. M. E. Lucyk, D.D.S., Dept. of Operative Dentistry, Faculty of Dentistry.

"How to do more dentistry easier."

10.45-11.15 Intermission.

11.15-12.15 Dr. H. G. Poyton, L.D.S., F.D.S., H.D.D., Head of Dept. of Radiology, Faculty of Dentistry.

"X-ray problems in the dental office."

LUNCH

2.00- 2.30 Dr. F. T. Pearson, D.D.S., President, Dental Alumni Association.

2.30- 3.00 J. E. Evans, Esq., B.A., Director, Dept. of Alumni Affairs, University of Toronto.

3.00- 4.00 "Chairside clinics in Orthodontics." Dept. of Orthodontics, Faculty of Dentistry, Dr. E. P. Harvold, D.D.S., Ph.D. and Staff.

4.30- 5.30 Scholarship Tea.

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1961	Saskatoon, Saskatchewan	June 4th-7th
1962	Vancouver, British Columbia	June 3rd-6th
1963	Toronto, Ontario	May 19th-22nd
1964	Edmonton, Alberta.	June 28th-July 1st
1965	Quebec City, Quebec	May 30th-June 2nd

1967	Toronto, Ontario	May
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(Centennial Celebration
of Dentistry in Canada)

FUTURE EVENTS

Date	Function	Location	Officer	Address
Oct. 19-21, 1960	35th Annual Fall Clinic —Montreal Dental Club	Queen Elizabeth Hotel, Montreal	Dr. D. Bruce Ward,	1414 Drummond St., Ste. 309, Montreal, P.Q.
May 21-24, 1961	Ontario Dental Association Convention	Royal York Hotel, Toronto, Ont.	Mrs. A. Durham,	230 St. George St., Toronto 5, Ont.
June 4-7, 1961	Western Canada Dental Society Convention	Bessborough Hotel, Saskatoon, Sask.	Dr. N. E. Gropper,	704 Canada Bldg., Saskatoon, Sask.

FACULTY OF DENTISTRY UNIVERSITY OF TORONTO

Short postgraduate courses during the session 1960-61.

1. Occlusion and Occlusal Correction	October 17-21, 1960
2. Paedodontics	January 9 & 10, 1961
3. Endodontics	March 1, 2 & 3, 1961
4. Orthodontics	March 6-10, 1961
5. Dental Radiology	March 13-17, 1961
6. Oral Surgery	April 24-28, 1961
7. Periodontics	May 8-12, 1961

For further information please write to: The Chairman, Division of Postgraduate Studies, Faculty of Dentistry 124 Edward St., Toronto 2, Ont.

TEMPLE UNIVERSITY SCHOOL OF DENTISTRY CLINICAL ENDODONTICS

An intensive participation course in Clinical Endodontics will be presented at Temple University School of Dentistry October 31, November 1, 2, 3, 4, 5, 1960. The course is under the direction of Dr. Leonard Parris.

Closed circuit television will be used for the clinical demonstrations. The postgraduate student will utilize diagnostic procedures, initiate treatment, and carry through to completion endodontic therapy on clinic patients supplied by the university. Single and multi-rooted teeth will be treated. Enrollment is limited to ten. Tuition is \$175.00.

This course will fulfill the prerequisite requirements for the postgraduate course "Surgical Endodontics" to be presented March 1961.

For further information and application, write to: Dr. Louis Herman, Director of Postgraduate Studies, Temple University School of Dentistry, 3223 North Broad Street, Philadelphia 40, Pennsylvania.

TEMPLE UNIVERSITY SCHOOL OF DENTISTRY
Graduate and Postgraduate Program for 1960-1961

Clinical Endodontics	Oct. 31, 1960 to Nov. 5, 1960
High Speed in Operative Dentistry	Dec. 7, 1960 to Mar. 1, 1961
Implant Dentures	January 9, 10, 11, 12, 13, 1961
Anatomy—Head and Neck Dissection	Feb. 1 to May 17, 1961 (15 Wednesdays) (1 to 5 p.m.)
Advanced Fixed Prosthesis	Feb. 6, 7, 8, 9, 10, 11, 1961
Present Day Periodontal Practice	Feb. 14 through Apr. 18, 1961 (1 day a week for 10 wks.)
Practice Administration	February 18, 1961
Periodontal Prosthesis	Feb. 20, 21, 22, 23, 24, 1961
Electronic Electrosurgery	March 3, 4, 1961
Immediate Surgical Endodontics	March 6, 7, 8, 9, 10, 11, 1961
Advanced Surgical Techniques in Periodontal Therapy	March 25, 26, 27, 28, 29, 1961
Full Denture Prosthesis	May 8, 9, 10, 11, 12, 1961
Graduate Orthodontics	Sept. 7, 1961—A two year course

For application and additional information, write to: Dr. Louis Herman, Director of Postgraduate Studies, Temple University School of Dentistry, 3223 North Broad St., Philadelphia 40, Pennsylvania.

FIRST DISTRICT DENTAL SOCIETY

Postgraduate Courses:

Precision Attachments—Partial Denture Construction	November 4, 1960
New Concepts in Restorative Dentistry	November 9, 10, 1960
Oral Reconstruction, Emphasizing Aesthetics, Using Porcelain Jackets and Porcelain Veneer Crowns	November 11, 12, 1960
Electronic Electrosurgery	November 11, 12, 1960
Pin Ledge and Full Cover Abutment Preparations for Fixed Bridgework Using Ultra High Speed	November 16, 1960
Roentgenographic Interpretation and Differential Diagnosis	November 16, 1960
Oral Dynamics	December 1, 2, 3, 1960
Endodontics	December 1, 2, 3, 1960
Analgesia	December 1, 2, 3, 1960
A Survey of the Temporomandibular Joint	December 1, 2, 3, 1960
Preparation of Teeth for Jackets for Abutment Purposes	December 12, 13, 14, 1960
A Comprehensive Survey of the Acrylics in Dentistry	December 15, 16, 1960.

For further information and applications please write: Postgraduate Department, First District Dental Society, Hotel Statler Hilton, New York City 1, N.Y.

UNIVERSITY OF ALABAMA SCHOOL OF DENTISTRY

Four Refresher Courses:

Root Canal Therapy	November 5, 6, 7, 1960
Major Oral Surgery	November 12, 13, 14, 1960
Oral Cancer	December 3 and 4, 1960
Preventive Orthodontics	December 10, 11, 12, 1960

For further information please write to: The Director, Refresher Course Program, University of Alabama School of Dentistry, 1919 - 7th Avenue South, Birmingham 3, Alabama.

Other information concerning dental meetings outside Canada is available at C.D.A. Headquarters upon request.

La régénération cicatricielle en parodontie

par Esther Carames de APRILE, Buenos Aires (République Argentine)

1. Préambule

Si nous partons de la conception que le parodontium est une unité biologique réelle qui, du point de vue morphologique, est constituée par la racine dentaire, le desmodonte, l'os alvéolaire et la gencive et qui, physiologiquement, est une articulation qui s'adapte, comme tout système vivant, en créant une nouvelle alvéole lorsque les nécessités de la fonction masticatrice et la migration dentaire l'exigent, nous pensons qu'il y a des raisons suffisantes pour espérer, sur la base d'une thérapeutique adéquate, une régénération cicatricielle du parodontium malade.

Etant donné que d'importants travaux sur ce sujet ont déjà paru dans la littérature, notre contribution veut tout simplement exprimer une opinion personnelle découlant de l'étude, de l'observation et de l'expérience clinique. Cette dernière, au moins en partie, acquise dans le Service de parodontie de la Maison centrale de l'Assistance publique dirigé par le Dr Méndez Diz.

Avant d'exposer la manière et le moment dans lesquels se produit la régénération du parodontium malade, nous devons prendre en considération les faits suivants:

- 1) l'importance du desmodonte dans la régénération cicatricielle;
- 2) les aspects anatomo- et histopathologiques de l'état d'insuffisance du desmodonte;
- 3) la réversibilité et l'irréversibilité des lésions parodontales.

2. Importance du desmodonte

L'expérimentation, la clinique et l'histopathologie nous montrent l'autonomie du desmodonte. En effet, c'est lui qui dirige et règle la fixité de la dent dans son alvéole et qui, malgré les processus de résorption et d'apposition qui se produisent au niveau de l'os alvéolaire, est capable de maintenir sa structure constante. La gencive, de son côté, le protège et participe ainsi activement à son équilibre fonctionnel.

Un exemple de l'autonomie et du pouvoir réactionnel du desmodonte, qui parle en faveur de ses possibilités de régénération cicatricielle, nous est fourni par l'expérience suivante. Si l'on réimplante une dent, immédiatement après son extraction, elle se fixe dans l'alvéole parce que les deux surfaces d'insertion sont encore palpitantes et permettent la cicatrisation desmodontale.

Le mécanisme de fixation ou de cicatrisation est, ici, le même que celui qu'on observe dans toute solution de continuité du tissu conjonctif, malgré que la régénération totale des tissus dentaires de soutien se fasse plus lentement et, généralement, de la façon suivante:

1) régénération par différenciation et mobilisation des éléments du SRE du desmodonte;

2) remodelage des surfaces cémentaire et osseuse pour la réinsertion des fibres desmodontales;

3) rétablissement de l'équilibre fonctionnel.

Il faut signaler que tout ce processus de cicatrisation se fait exclusivement aux dépens du desmodonte et que la moelle de la spongieuse interalvéolaire lui fournit simplement la vascularisation, l'innervation et les éléments cellulaires qu'il utilise pour sa régénération.

Une preuve évidente de la cicatrisation du parodontium nous a été fournie par l'examen microscopique d'un cas de réimplantation immédiate d'une première molaire inférieure que nous avons étudié une année après que l'intervention avait été réalisée.

Nous avons pu remarquer, au niveau de l'espace interradiculaire, la néoformation de la crête osseuse du septum et des fibres dento-dentaires et dento-septales et, au niveau de la racine distale, un remodelage de la surface cémentaire et de la corticale osseuse alvéolaire mis en évidence par la couche des éléments réticulo-endothéliaux transformés en ostéoblastes et adossés à la surface d'insertion osseuse des fibres desmodontales et la persistance de fibroblastes et de rares éléments collagènes dans le desmodonte néoformé.

3. Aspects anatomo- et histopathologiques.

— Déséquilibre parodontal. — Réversibilité et irréversibilité des lésions parodontales

Dans un travail précédent, nous avons étudié de quelle manière et à quel moment on peut obtenir la réversibilité des lésions parodontales, une fois l'équilibre occlusal rétabli. Ceci a été aussi prouvé expérimentalement au niveau du parodontium humain. Nous possédons plusieurs exemples qui montrent quand et de quelle façon on obtient la régénération cicatricielle et quand on ne peut pas l'obtenir.

Les documents appartiennent à un patient porteur d'une prothèse partielle inférieure dont les effets traumatisants durent depuis trois ans d'une façon continue. Ces effets sur le parodontium des -3, -2 et -1 peuvent se résumer ainsi: atrophie presque totale du parodontium, côté lingual, au niveau de ces trois dents; papilles interdentaires bien conservées; pas de suppuration; pas de culs-de-sac; présence de tartre; rétraction gingivale du côté vestibulaire. On a formulé le diagnostic clinique de parodontose traumatique, tandis que le radiologue parle d'abcès parodontosiques apicaux. L'examen microscopique de la biopsie confirme le signe d'ostéoporose avancée, mais non celui d'abcès parodontosiques périapicaux.

Sur une coupe mésio-distale, on observe un ciment sain, la persistance des fibres desmodontales qui, bien qu'ayant perdu leur fonction, soutiennent la dent et conservent saine leur insertion dentaire. On peut aussi observer la solidité du faisceau des fibres dento-dentaires.

La persistance du desmodonte et la trame fibro-réticulaire qui remplace la structure osseuse alvéolaire peuvent, en tant que tissu conjonctif, reprendre leur potentiel ostéogénétique—ceci comme résultat d'un traitement adéquat et de la stimulation masticatrice — et donner origine à du tissu ostéoïde qui, se déposant au sein de la trame collagène-réticulaire, donnera une néoformation d'os alvéolaire. Le desmodonte restant récupérera, à son tour,

son individualité et sa capacité formative de ciment et de corticale alvéolaire.

Un autre exemple clinique que nous possédons montre la régénération cicatricielle atteinte une année après que l'intervention a été pratiquée. Les images radiographiques prouvent le mécanisme cicatriciel précédemment exposé, c'est-à-dire, la réversibilité des lésions parodontales.

D'autres preuves de l'activité du desmodonte dans le processus de régénération cicatricielle, nous pouvons les observer dans les fréquentes fractures cémentaires provoquées par le trauma occlusal.

En résumé, les lésions parodontales consécutives à la surcharge de travail, sont réversibles seulement lorsque les éléments réticulo-endothéliaux du desmodonte conservent la capacité de refaire la structure propre du desmodonte et, par conséquent, de reconstituer les surfaces d'insertion des fibres desmodontales.

La régénération cicatricielle ne se produit pas lorsque le parodontium n'a plus de ressources à cause des transformations continuelles exigées par la surcharge de travail et, alors, il se transforme en abandonnant la dent qui, pour lui, est devenue un corps étranger. A ce moment il n'y a plus de possibilité de conserver la dent, parce que les lésions ont produit un déséquilibre du parodontium.

Par contre, les choses se passent différemment lorsque, dans la maladie parodontale, dominent les phénomènes irritatifs et inflammatoires. Dans ce cas, l'expansion du processus inflammatoire chronique du cul-de-sac, en constante réactivation, ne permet pas que le desmodonte puisse refaire sa structure et provoquer de l'apposition d'os nécessaire à l'insertion de ses fibres. Mais, jusqu'à ce stade, la parodontopathie inflammatoire, à caractère évolutif, est encore contrôlable et, par conséquent, la régénération cicatricielle pourra encore se faire, mais jusqu'à l'endroit où on rencontre du desmodonte qui n'a pas été fondamentalement atteint.

Les lésions deviennent irréversibles — déséquilibre — lorsque les fibres desmo-

dontales changent de direction et n'exercent plus leur fonction normale à cause de l'élargissement de l'espace desmodontal. A tout ceci il faut ajouter la mobilité et la migration dentaire. Dans ces conditions, la capacité de régénération du desmodonte diminue et également la surface d'implantation dentaire. De son côté, l'os alvéolaire subit des remaniements importants et la dent, pour sa part, se transforme en corps étranger.

La période d'expulsion de la dent est arrivée et peut même être accélérée par réactivation du tissu granulomateux du cul-de-sac transformé en abcès chronique qui éliminera la dent par suppuration. Le desmodonte disparaît ainsi en tant qu'entité morphologique et fonctionnelle.

4. De quelle façon se fait la régénération cicatricielle du parodontium malade?

De ce qui précède, on peut déduire que la régénération cicatricielle en parodontie se fait uniquement lorsque les lésions sont réversibles. Le microscope et l'expérience clinique prouvent que la régénération cicatricielle est possible, étant donné qu'il s'agit simplement d'éliminer les facteurs irritatifs et les réactions que ceux-ci produisent dans les tissus.

En effet, dans les parodontopathies par surcharge de travail, on obtient la régénération cicatricielle parodontale grâce au traitement conservateur et au meulage sélectif qui, en rétablissant la fonction parodontale, maintient l'équilibre occlusal. Des contrôles périodiques sont nécessaires. Il faut aussi instruire le patient sur les mesures d'hygiène, les massages et la rééducation masticatrice.

Dans les parodontopathies, dans lesquelles les phénomènes irritatifs et inflammatoires dominent, on obtient aussi une régénération cicatricielle grâce à un traitement conservateur qui consistera à nettoyer et polir la surface dentaire dénudée et à disséquer le tissu granulomateux du cul-de-sac en maintenant intacte la partie libre de la gencive. Ceci est possible si on emploie les instruments de Bilbao.

La gencive adhèrera à tout le pourtour de la surface dentaire dénudée et polie et atteindra le niveau autorisé par le degré de dégénération du tissu de soutien de la dent. En même temps, le desmodonte restant cicatrise de la façon décrite plus haut.

5. Conclusions

Nous sommes ainsi arrivés à connaître l'étiopathogénie de deux processus parodontaux caractérisés par des lésions histopathologiques particulières et par des manifestations cliniques bien définies. Nous pouvons aussi affirmer que la régénération cicatricielle du parodontium malade sera d'autant plus effective que le traitement sera conservateur et le plus précoce possible.

D'autre part, nous avons prouvé qu'il faut respecter la gencive pour obtenir cette régénération cicatricielle. En effet, c'est elle qui, dans les lésions modérément avancées, remplace le desmodonte et l'os disparus par l'approfondissement du cul-de-sac.

Le traitement Bilbao-Méndez Diz, avec ses instruments délicats et expressément préparés, qui permettent d'atteindre tous les secteurs de la dent et toutes les profondeurs des culs-de-sac, d'éliminer le cément dénudé et malade, de réactiver le desmodonte restant, tout en respectant la structure osseuse, d'éliminer le tissu granulomateux du cul-de-sac par une véritable dissection, c'est indiscutablement le plus efficace dans la thérapeutique des processus inflammatoires parodontaux caractéristiques des parodontites complexes.

Ici, comme dans toutes les maladies, il est nécessaire d'établir une collaboration stricte entre le malade, en ce qui concerne les mesures d'hygiène, et le praticien, en ce qui concerne l'équilibre occluso-articulaire, les contrôles périodiques, le critère individuel relatif à la réhabilitation masticatrice et les moyens prophylactiques, une fois qu'on a atteint la régénération cicatricielle.

Médecine et Hygiène, 30 juillet 1960

Traitements conservateurs des dents temporaires

Dans la *Revue stomato-odontologique du Nord de la France* (58, 11, 1960) M. Lazar, de Paris, reprenant les observations de J. Chatellier faites dans l'*Encyclopédie médico-chirurgicale*, constate que nombre de confrères renoncent aux traitements conservateurs des dents caduques à cause précisément de la brièveté de leur existence.

En procédant ainsi, on compromet, dit l'auteur, d'une part l'intégrité des arcades dentaires des enfants, ce qui a pour conséquence directe de les priver d'un coefficient masticatoire indispensable à leur dé-

veloppement normal, et d'autre part de commettre de graves erreurs à plusieurs points de vue.

En effet:

Le développement et la morphologie de la face sont en rapport direct avec les maxillaires et les dents qu'ils portent.

Les malpositions sont souvent une conséquence des extractions précoces sans compter que des troubles digestifs et respiratoires, de même que des désordres morphologiques et fonctionnels généraux peuvent être occasionnés par le manque de soins dentaires.

Les infections des germes définitifs peuvent avoir les mêmes origines. Pour conduire correctement le traitement conservateur d'une dent temporaire, il faut connaître parfaitement ses caractéristiques anatomiques et morphologiques en constante évolution. A ceci doit s'ajouter une connaissance de la psychologie enfantine pour mener à bien le traitement.

L'enfant doit être détendu lorsqu'il pénètre dans le cabinet dentaire et le praticien évitera, lors de la première séance, toute intervention risquant de faire mal.

On aura recours à quelques prémédications lorsque l'enfant après une longue nuit d'insomnie ne sera pas réceptible à nos manœuvres.

Le traitement proprement dit de la dent temporaire comprend le traitement prophylactique et le traitement curatif.

Traitement prophylactique

Des règles d'hygiène très strictes doivent être instaurées dès la naissance en commençant par le nettoyage des gencives et ensuite par le brossage des dents dès leur apparition.

A ces brossages réguliers certains préconisent des applications de nitrate d'argent à 5 ou 10% sur les surfaces triturantes. Mais cela a l'inconvénient de donner une coloration inesthétique masquant souvent l'apparition d'une carie.

Quant aux applications de fluor, leur rôle est encore discuté. La prophylaxie la plus efficace consiste encore en des soins curatifs très précoces.

Traitement curatif

Une dent temporaire a une forme extérieure globuleuse, accusée par un rétrécissement très marqué au collet.

L'émail est mince et relativement fragile, les canalicules dentaires ont une largeur plus importante que ceux des dents permanentes, sont perméables, soutiennent mal l'émail et protègent insuffisamment la pulpe qui, très volumineuse et avec des cornes proéminentes, se trouve enfermée dans une chambre dont le plancher est souvent mou et perméable.

Le processus de la carie atteindra donc très rapidement un organe dont la défense est relativement faible.

Cliniquement, avec *Chatellier*, nous pouvons considérer quatre périodes à la dent temporaire:

Période intra-alvéolaire.

Période extra-alvéolaire ou de construction.

Période de stabilité ou adulte.

Période de destruction ou caduque.

Pendant la première période nous ne pouvons intervenir. Pendant la deuxième période, celle de l'apparition de la dent sur l'arcade, la vulnérabilité de son intégrité est à pouvoir égal avec sa possibilité de défense.

En effet, si la carie peut facilement se développer au niveau des sillons dont la coalescence des prismes de l'émail est souvent précaire, il ne faut pas oublier qu'à ce stade de son évolution la dent est un véritable arsenal où les éléments constructifs travaillent intensément.

C'est dans la dernière période que nous avons le plus à intervenir. La dent s'use, l'émail devient mince et perméable, la dentine se déminéralise, les apex sont largement ouverts.

Par ailleurs, le régime alimentaire de l'enfant ayant changé, les aliments contiennent davantage d'éléments capables par leur fermentation de détruire l'émail usé.

Le traitement commencera d'abord par un interrogatoire, nous souvenant que les douleurs provoquées par le sucre ou les acides intéressent déjà la dentine. Les douleurs vives, nocturnes, irradiées sont en rapport avec une pulpe vivante, alors que celles occasionnées par la mastication seront le résultat d'une périodontite secondaire à une gangrène pulpaire. Enfin, une douleur pulsatile fera penser à une gangrène pulpaire avec complications périodentaires gingivales ou cellulaires.

En présence de coloration des sillons, un nettoyage à la brosse avec une pâte légèrement abrasive et antiseptique suffira. Le problème devient plus difficile lorsqu'il y a atteinte de la dentine. Envisageons les divers stades.

Dentinite superficielle des faces occlusales

Après ouverture de la cavité par l'effondrement de l'émail surplombant à l'aide de pointes diamantées, nous procédons à l'exérèse de la dentine altérée avec de petites fraises rondes. Les excavateurs sont réservés pour les dentinites profondes. La stérilisation de la dentine sera faite après assèchement à l'air chaud, par un badigeonnage à l'acide phénique, au nitrate d'argent ou au formol.

L'obturation se fera en une séance.

Dentinite profonde des faces occlusales

Chez l'enfant, le passage de la dentinite profonde à la gangrène pulpaire peut se faire de façon insidieuse en l'absence de tout phénomène douloureux ou inflammatoire, les poussées d'arthrite alvéolo-dentaire n'étant constatées que rarement. L'ouverture de la cavité se fera comme précédemment en prenant toute précaution pour éviter de pénétrer par effraction dans la pulpe.

En l'absence de tout signe subjectif on opère comme précédemment mais au lieu d'obturer avec un amalgame nous remplissons la cavité avec une pâte oxyde de zinc-eugénol. Nous attendons une quinzaine de jours avant d'obturer définitivement. Dans certains cas, lorsque nous nous trouvons dans l'impossibilité d'enlever toute la dentine altérée, nous hésitons parfois entre le coiffage pulpaire et la déulpation.

Le coiffage direct peut se faire lorsqu'une corne pulpaire a été touchée. Une technique de ce coiffage consiste après élimination de la dentine, à nettoyer la cavité avec de l'eau bouillie tiède ou un antiseptique léger et après avoir isolé cette cavité et l'avoir asséchée, on désinfectera la dentine ramollie restante à l'aide d'alcool phéniqué et sublimé, de créosote, de nitrate d'argent ou d'une insufflation d'ozone. On peut aussi utiliser l'acide trichloracétique. Ensuite, c'est avec un eugénate en général que l'on obture la dent pour la laisser en observation pendant 15 jours. En absence de douleur, l'obturation se fera mais des tests ulté-

rieurs permettront de vérifier si la sensibilité reste normale. Mais en ce qui nous concerne, nous préférons la déulpation prophylactique.

Dentinite proximale

Du fait de la proximité de la pulpe, la pulpectomie est la seule solution à envisager.

Pulpectomie

Elle peut se faire sous anesthésie locale à condition d'opérer vite, car, avec les enfants, les choses ne sont pas toujours faciles. Nous préférons le pansement arsénical (Voire ! *Réd.*).

Si des praticiens, pour des raisons de convenances personnelles, s'abstiennent systématiquement de traiter les canaux, quant à nous, nous les traitons dans la limite du possible. L'obturation se fait avec une pâte de Robin faible et à l'aide d'un Lentulo court et gros.

Caries avec participation pulpaire

Une dent temporaire atteinte de pulpite sera traitée comme lors des déulpations prophylactiques.

Quant à la gangrène, le problème étant complexe, le traitement sera différent suivant que l'on aura affaire à une gangrène simple ou une gangrène avec fistule ou abcès.

Lorsque les dents doivent quitter l'arcade dans un temps assez court, l'extraction est formellement indiquée. Mais si les dents causales doivent rester un temps assez long, alors un traitement doit être tenté.

Pour les gangrènes simples

Après la prise de radios, le nettoyage de la cavité et si possible l'exploration des canaux, nous laisserons, pendant deux à trois jours, la cavité ouverte. Après quoi, le traitement comprendra un traitement mécanique, un traitement si possible par agents physiques et un traitement chimique selon la méthode de Buckley ou avec les sulfones iodés et l'acide trichloracétique.

Nous pouvons aussi dans un premier temps faire une préparation extemporanée de pénicilline à 100 000 unités avec quelques gouttes de sérum physiologique.

Dans un deuxième temps, on obturera complètement les canaux avec la pâte classique de Robin. Un eugénate finira d'obturer provisoirement le reste de la cavité.

Traitement des gangrènes avec complications

Si vraiment il s'impose, le traitement sera le même que celui de la gangrène simple, mais en plus, nous introduisons de la tifomycine en suspension dans les canaux à l'aide d'une seringue. Quant aux

fistules, nous en faisons le cathétérisme avec un fil métallique souple trempé dans une solution d'acide trichloracétique. Nous donnons pour ces traitements la préférence à l'amalgame d'argent. Les ciments sont fragiles et l'amalgame de cuivre est cassant. Inutile de rappeler le soin à donner à la finition de l'obturation.

Dans le cas de grosses destructions coronaires, on peut reconstituer la dent à l'aide d'inlay - onlays coulés en un alliage argent-palladium. Une autre méthode consiste en des couronnes d'acier faites avec des bagues d'orthodontie. La face occlusale sera faite en résine autopolymérisante.

Médecine et Hygiène, 30 juillet 1960

VIENT DE PARAÎTRE

Traumatismes accidentels en stomatologie

— Massif facial et incisives supérieures —
292 pages — Masson & Cie, éditeurs, Paris, France 1959.

Ce volume contient le texte de communications présentées par Mm. P. Maronneau, M. Peri, C. Crépy, J. Lachard, Grazide, Bouyssou, Clauzade et Peyre au XVI^e Congrès de Stomatologie, tenu à Paris du 5 au 10 octobre 1959.

Il se divise en deux parties: 1) les lésions traumatiques du massif facial supérieur dans le cadre des accidents de la circulation; 2) les traumatismes accidentels des incisives supérieures. Il renferme de nombreux dessins explicatifs, des graphiques, des photographies, des microphotographies et une bibliographie particulièrement riche.

Ce volume se limite: 1) aux traumatismes de l'ossature du maxillaire supérieur (maxillaires supérieurs, molaires, os propres du nez, cornets inférieurs, palatin, vomer, apophyses ptérigoïdes du sphénoïde, masses latérales et lame perpendiculaire de l'éthmoïde et aux lésions des tissus mous et aux organes des sens associés à ces structures; 2) aux fractures, contusions, luxations, subluxations, fêlures

des incisives supérieures, primaires ou permanentes, aux traumatismes affectant les germes des incisives et les tissus mous (ligament périodontaire, gencive).

Les problèmes des fractures osseuses et dentaires sont présentés dans l'ordre suivant: étiologie, mécanisme, formes anatomocliniques, lésions associées, diagnostic clinique et radiologique, traitement immédiat d'urgence, traitement secondaire, complications, séquelles et leur traitement, résultats.

Les rapports fondus en un tout homogène exposent à fond la question des fractures des os qui forment le maxillaire supérieur et de celles des dents; ils synthétisent les méthodes d'examen et de traitement. Ils sont rédigés dans un style simple et clair. Leur grande valeur est de se limiter à un domaine précis et de l'épuiser. Ils s'adressent, à cause des rappels anatomiques, aux étudiants des facultés dentaires qui veulent s'initier à ce sujet. Ce volume se destine aussi aux praticiens qui s'intéressent aux traitements des fractures et à ceux — et ils sont nombreux — qui rencontrent dans leur clientèle des cas de fractures d'incisives supérieures: il fournit des données pratiques de diagnostic et de thérapeutique.

GERARD de MONTIGNY

Nouvelles de l'Association

Les députés parlent de recrutement

M. D. M. Fisher, M.P. (CCF) a fait récemment, en Chambre, des commentaires sur le recrutement des professions médicale et dentaire. Il a déclaré qu'il y a une diminution notable dans le nombre des étudiants intéressés par la médecine et par la dentisterie. M. Fisher a dit qu'en sa qualité d'instituteur il vient en contact avec les étudiants et qu'il a tenté de savoir pourquoi si peu de jeunes gens veulent embrasser ces carrières.

On peut résumer ainsi les observations que M. Fisher a fait à la Chambre des Communes à ce sujet, le 23 juin 1960. "La réponse la plus fréquente — et je ne sais pas si c'est la bonne — ne touche pas à l'argent. Ce n'est pas non plus le fait que de plus en plus les médecins deviennent des employés. La cause la plus souvent alléguée est la longueur et le coût des études, plutôt que la préoccupation au sujet des revenus . . . aujourd'hui, la seule façon d'amener les jeunes gens à choisir une profession qui exige des études au-delà du niveau du collège est de leur offrir une organisation alléchante de bourses . . . et un cours d'études qui est comparable en durée et en difficultés avec celui d'autres facultés universitaires.

"Nous aurons bientôt pénurie de dentistes et pourtant les dentistes mènent leurs affaires d'une façon plus autonome que les médecins.

" . . . malgré le fait que les dentistes jouissent de toute la liberté possible et qu'ils organisent leur travail eux-mêmes et qu'ils aient de bons revenus, nous manquons de dentistes dans plusieurs régions du Canada.

"Les problèmes que présente le recrutement dans ce domaine appartiennent au Ministre de la Santé nationale et du Bien-Etre social: ils sont même sa responsabilité. Si les professions ne leur trouvent pas de solutions, je crois que le ministre y verra lui-même."

Charité bien ordonnée commence par soi-même

(résumé du "The Printed Word", août 1960)

Au nombre des raisons alléguées pour expliquer la victoire des libéraux au Nouveau-Brunswick, il y a cette promesse du chef libéral d'abolir, s'il était élu, la prime individuelle pour l'assurance-hospitalisation et d'en payer les frais à même les revenus de la province. Si cette promesse a favorisé le vote libéral, on peut conclure que l'ignorance en matière d'économie est une force politique au Nouveau-Brunswick, comme ailleurs.

L'ignorance en matière d'économie est la base de l'état-bonbon! Elle croit que le gouvernement, par quelques trucs de magie, peut les faire bénéficier d'avantages pour lesquels ils n'ont pas payé. Si le nouveau premier ministre de Nouveau-Brunswick tient sa promesse d'absorber les primes des individus, les malades de cette province découvriront avec l'augmentation que subiront les taxes d'ici quelques années que "charité bien ordonnée commence par soi-même".

La province de Manitoba règle son problème de dentiers

(résumé du Financial Post, le 16 juillet 1960)

Les lois au sujet de la prothèse dentaire sont différentes d'une province à l'autre, par John Irwin.

Quelle place occupent les techniciens dentaires et les "denturistes" dans les autres provinces? Voici un résumé de la situation tel que l'a brossée pour le Financial Post le docteur Donald Gullett, secrétaire de l'Association dentaire canadienne. — Colombie britannique: Une loi provinciale adoptée le mois dernier permet à certains techniciens d'exercer directement pour le public (confectionner et ajuster des prothèses, etc).

"Cette loi, dit le docteur Gullett, confère une reconnaissance officielle de privilèges à environ 35 techniciens, qui exerçaient illégalement depuis environ sept ans."

Les 300 autres techniciens de la province continueront à fabriquer des dentiers par ordonnances écrites par les dentistes.

- Alberta: La province n'anticipe pas de nouvelle loi, quoique qu'une minorité au sein des techniciens tente de faire du bruit.
- Saskatchewan: La Législature de 1959 a passé une loi autorisant les "denturistes" à exercer comme dentistes. Cette loi a été rescindée au début de 1960. Seulement 1 "denturiste" en a subi les effets.
- Ontario: Les techniciens, d'après une loi provinciale, travaillent sous la juridiction de la profession dentaire.
- Québec et Nouveau-Brunswick: Les lois sont semblables à celles de l'Ontario.
- Nouvelle-Ecosse, Ile-du-Prince-Edouard et Terre-Neuve: ces provinces n'ont pas de loi sur la question. Les dentistes et les techniciens s'entendent bien.

Le docteur Gullett a déclaré que l'organisation des auxiliaires dentaires (qui détartrent les dents et les polissent, prennent des radiographies, etc) soulève des problèmes graves. Ces auxiliaires permettent au dentistes de consacrer plus de temps aux patients.

"Nous sommes en faveur de ces auxiliaires, dit le docteur Gullett, mais elles doivent recevoir une bonne formation. Il y a une école pour ces hygiénistes dentaires à Toronto et une autre ouvrira bientôt ses portes à Winnipeg.

Un élément nouveau vient alimenter la controverse au sujet des dentiers au Manitoba.

Il — ou plus souvent elle — est un "auxiliaire dentaire" et peut solutionner le conflit juridique au sujet de qui peut ou ne peut pas travailler dans la bouche du patient pour lui ajuster des prothèses.

Les acteurs de ce conflit sont les suivants:

- Les dentistes: les seuls personnages ayant droit d'examiner les bouches, poser un diagnostic et prescrire un traitement.
- Les denturistes: ceux qui ont rempli toutes ces fonctions et confectionné des dentiers, quoique la loi ne leur permettent que d'exécuter du travail en dehors de la bouche des patients.
- Les techniciens dentaires: ceux qui, à proprement parler, se bornent à fabriquer des dentiers d'après les ordonnances des dentistes.

Les auxiliaires dentaires auront maintenant une licence, après avoir subi un entraînement sous l'autorité des dentistes, pour travailler dans la bouche des patients, prendre des empreintes, enregistrer l'occlusion et faire les réparations mineures des dentiers.

Il faut dire que l'auxiliaire dentaire n'est pas complètement un nouveau personnage au Manitoba; elle est une ancienne hygiéniste dentaire qui, depuis 1952, avait comme fonction de détarter les dents, les polir, prendre les radiographies et vulgariser les données de l'hygiène dentaire.

Tout le problème devint aigu quand on constata que le Manitoba manquait de dentistes. Il y a, en dehors de Winnipeg, un dentiste pour 10,000 personnes, à peu près la proportion qu'avaient les Etats-Unis, il y a 120 ans. Comme les dentistes ne pouvaient pas et, dans certains cas, ne voulaient pas répondre aux exigences de la population pour des traitements dentaires; 31 "denturistes" se sont présentés pour répondre adéquatement aux besoins dentaires du public.

Cette situation a ému l'Association dentaire du Manitoba qui a crû que, dans l'intérêt du public, la profession devrait conserver la responsabilité des soins dentaires prodigués à la population.

Le débat fut clos à la Législature du Manitoba qui a passé une loi permettant d'accorder des licences aux auxiliaires dentaires pour soulager les dentistes, établissant des cliniques à prix modiques dans la basse-ville de Winnipeg, où des

dentistes, membres de l'Association, feraient le service.

Une nouvelle faculté établie à l'Université du Manitoba aidera à faciliter les traitements dentaires; c'est la première faculté fondée au Canada depuis près d'un demi-siècle.

Elle est appelée à jouer un rôle important dans la formation des auxiliaires dentaires. Les "denturistes", dont l'existence ne paraît plus justifiée avec ce nouveau système, devront disparaître d'ici trois mois; toutefois, on ne prendra pas de poursuite contre eux d'ici ce temps.

On peut dire que les dentistes ont réglé eux-mêmes leur problème, quoique quelques-uns n'approuvent pas ce système.

Le docteur J. W. Neilson, doyen de la faculté dentaire de l'Université de Manitoba, déclare: "Nos amis des Etats-Unis surveillent les événements avec nervosité; ils craignent le pire pour le public et pour la profession."

Cependant le choix et la confection des prothèses reste dans les mains de dentistes légalement qualifiés. "Mais, dit le docteur Neilson, il faut dire que les législateurs, en votant leur loi, ont clairement démontré leur désir d'aider le public en lui procurant en quelque sorte, de meilleurs soins, comme il le demande et ce, en laissant les dentistes prodiguer un service de prothèse supérieur à ce qu'il était, il n'y a pas si longtemps.

"On a aussi souligné et d'une façon évidente, que si de cette façon les services ne s'améliorent pas, la Législature n'aura pas d'autre alternative que de diminuer les qualifications nécessaires à l'exercice de la prothèse dentaire dans cette province; cette législation sera imminente, si la question est encore soulevée devant elle."

L'Alberta vote la loi des auxiliaires dentaires

La législature d'Alberta a voté, à sa dernière session (le 11 avril 1960), le bill no 83, qui est la Loi des Auxiliaires dentaires. Cette loi définit comme "auxiliaire dentaire" "une personne autre qu'un dentiste qui a reçu une formation pour prodiguer les services dentaires mentionnés dans les règlements comme étant des services

qu'un auxiliaire dentaire licencié peut rendre dans cette province."

Cette loi donne le pouvoir au ministre de: —établir des écoles pour la formation des auxiliaires dentaires après entente avec l'Université d'Alberta;

—définir les qualifications nécessaires à l'admission à ces écoles; les cours requis, les honoraires à y payer et l'expérience pratique à y acquérir.

Le ministre nommera un comité des auxiliaires dentaires pour l'instruire des questions se rapportant aux programmes d'études des auxiliaires dentaires et des procédures pour ce faire. Le comité se composera du directeur du Service d'Hygiène dentaire (qui agira comme président), d'un représentant de l'Association dentaire d'Alberta et de trois autres membres choisis par le ministre, dont l'un représentera l'Université d'Alberta.

Le comité instituera un registre pour les auxiliaires dentaires et décernera des licences annuellement. Les auxiliaires dentaires, d'après cette loi, prodigueront des services seulement "sous la surveillance ou la direction d'un dentiste qui portera en tous temps la responsabilité de ces services, quand ils seront employés par des autorités sanitaires locales ou quand leurs services sont requis par des autorités sanitaires locales ou par la faculté de chirurgie dentaire de l'Université d'Alberta.

Aucun auxiliaire dentaire n'aura le droit de percevoir directement du public des honoraires pour des services auxiliaires dentaires."

Première réunion conjointe de l'A.D.C. et de l'A.D.A.

Les comités exécutifs des associations dentaires nationales du Canada et des Etats-Unis se sont réunis conjointement à Toronto, les 6 et 7 mai, pour discuter de projets à longue échéance pour régler le problème de la demande croissante pour des traitements dentaires dans les deux pays. C'est la première fois dans l'histoire que les deux associations se réunissent ensemble. Les officiers de l'Association dentaire canadienne et ceux de l'Association dentaire américaine, après avoir examiné les facteurs d'ordre professionnel, social et législatif qui influencent l'exercice de la dentisterie au Canada et aux Etats-Unis, se sont entendus sur les points suivants:

- 1) La profession doit assumer la responsabilité de diriger les activités en hygiène dentaire, mais tous les organismes communautaires ont la responsabilité de prendre des mesures pour amplifier et mieux répartir les services d'hygiène dentaire.
- 2) La lenteur mise par les organismes

sociaux ou par des portions considérables de la population à reconnaître l'importance de la santé dentaire force maintenant la profession à former du personnel en plus grand nombre dans des institutions d'enseignement qui n'ont pas reçu assez de support durant plusieurs décades.

3) Plusieurs agglomérations des deux pays ont failli à leurs obligations d'utiliser des mesures préventives telles que la fluoration, qui auraient amélioré considérablement la santé dentaire. La fluoration est une méthode sûre, peu coûteuse et effective de contrôler la carie dentaire; elle peut réduire de 65% l'incidence de cette maladie qui se rencontre partout.

4) L'adoption de mesures qui ont fait leur preuve et la dissémination au sein de la population de notions saines d'hygiène dentaire auraient permis à la profession de se développer normalement et d'utiliser les ressources dont elle dispose pour répondre adéquatement aux besoins du public.

5) On doit continuer d'encourager des projets qui ont pour but de former un personnel dentaire plus nombreux, en particulier des dentistes; on doit solliciter le gouvernement et d'autres sources pour qu'ils fournissent des fonds qui soient spécialement consacrés à ces fins.

6) Les recherches ont un besoin urgent d'argent pour amplifier leurs programmes et il est temps de mettre en œuvre des plans sérieux de traitements dentaires collectifs.

7) L'organisation de tout programme pour des soins dentaires doit comprendre tout d'abord l'éducation compréhensive et le traitement des plus jeunes membres de la population; cette façon de faire est le seul moyen de préparer la santé dentaire future de toute la population.

8) Il faut songer davantage à intégrer les traitements dentaires dans les programmes d'hygiène générale, tout en gardant bien hauts les standards des services dentaires.

Le docteur William G. McIntosh, président, les membres de l'Exécutif et de divers conseils et de bureaux de l'Association représentaient l'A.D.C. Le docteur Paul H. Jeserich, président de l'Association dentaire américaine, était le chef de sa délégation. Il était accompagné des officiers, des membres du Conseil d'Administration et des membres d'un certain nombre de conseils et de bureaux au sein de l'A.D.A. Le comité Exécutif de l'A.D.C. a siégé durant deux jours, après la réunion.

Age des dentistes canadiens

L'âge moyen des dentistes canadiens est de 45.9 ans. La moitié des dentistes du Canada ont moins de 43.4 ans.

Ces deux données proviennent d'une enquête entreprise récemment par le Bureau

des Recherches économiques de l'A.D.C. Les statistiques complètes de cette enquête ont paru dans la livraison de juin du Journal. Mlle Isabel Boyd, qui est la directrice de ce bureau, est à préparer les rapports d'autres relevés qu'elle a entrepris et elle les publiera dans le Journal.

Un dentiste canadien titulaire d'une bourse d'enseignement aux Etats-Unis

Le docteur Arthur T. Storey, anciennement de Sarnia, Ontario, a gagné la bourse de \$5,000 décernée pour l'année 1960-61 par l'Association dentaire américaine pour un stage d'études et d'enseignement. Le docteur Storey commencera ses études graduées l'automne prochain au Rockham School of Graduate Studies, Université de Michigan; ce cours mène à un doctorat en philosophie. Le docteur Storey est un diplômé de l'Université de Toronto (1953) et il a exercé à Sarnia avant de se rendre à l'Université de Michigan pour se perfectionner en orthodontie. Son père, Edward Arthur et son jeune frère, Trevor Kenneth, eux aussi diplômés de l'Université de Toronto, exercent la dentisterie à Sarnia.

Réunion du Comité d'Etude sur l'Assurance-Santé

Le Comité d'Etude sur l'Assurance-Santé a tenu récemment sa réunion annuelle sous la présidence du docteur P. G. Anderson.

Le principal rapport qui y fut soumis était celui d'un sous-comité sur un plan d'assurance pour les soins dentaires. Le comité a approuvé un plan d'essai de prépaiement et les principes qui l'accompagnent. Le tout sera soumis au Conseil des Gouverneurs. On a rapporté progrès sur un plan de pré-paiement pour des traitements d'orthodontie. Le comité a aussi discuté les résultats d'enquêtes entreprises par le Bureau des Recherches économiques de l'A.D.C. sur l'âge des dentistes canadiens et sur la rémunération des dentistes en Angleterre.

M. W. E. Jackson, secrétaire-trésorier des Plans des Services Dentaires Incorporés (PSDI), a présenté un rapport. Les PSDI s'occupent de l'administration et de la comptabilité des plans des services dentaires pour la moitié des dix provinces du Canada; bientôt d'autres provinces se joindront à cette organisation. Assistaient à l'assemblée: les docteurs E. S. Dorion, Montréal; W. R. Scott, Vancouver; L. V. Janes, Hamilton; Louis Bernier, Québec; T. R. Marshall, Toronto; D. C. Stiles, London; H. W. Reid, Toronto et les officiers de l'Association.

On a besoin d'un numéro du Journal

La bibliothèque de l'A.D.C. aurait besoin de copies du no 2, vol. 25, février 1959 du Journal. Les membres qui peuvent en disposer, sont priés de les faire parvenir au Secrétariat de l'A.D.C.

Deux étudiants de McGill remportent les prix du Concours du Mémorial de Guerre de l'A.D.C.

Deux finissants de l'Université McGill ont gagné respectivement le premier et le deuxième prix du Concours annuel du Mémorial de Guerre de l'Association dentaire canadienne.

M. Stanley Frodyma, de Holyoke, Mass., a gagné le premier prix de \$125.00 et M. Howard Zucherman, de Clayton, Missouri, le deuxième prix de \$75.00. Le thème du mémoire était: "le rôle de la dentisterie en santé publique". Le mémoire qui a remporté le premier prix a paru dans la livraison de juillet du *Journal de l'Association dentaire canadienne* et celui qui a gagné le deuxième prix, en août.

Ces prix annuels viennent d'un fonds soutenu par les dentistes canadiens pour honorer leurs confrères qui ont perdu la vie au cours des deux grandes guerres. Le docteur Louis Lepine, de Montréal, est président du comité chargé de ce concours.

Quatre villes de Saskatchewan adoptent la fluoration.

Quatre municipalités ont commencé cette année à fluorer l'eau de leur aqueduc. Treize villes de cette province utilisent à date cette mesure et ce chiffre représente le plus grand nombre de villes dans une même province au Canada. Les habitants de ces treize villes forment un total d'environ 162,000.

Les quatre municipalités qui viennent de commencer la fluoration sont Melville, 5,000 de population; Prince Albert, 21,875; Rosethorn, 1,270 et Tisdale, 2,400.

Collection du Journal de l'A.D.C. offerte à l'Ecole Dentaire de Bombay.

L'Association dentaire canadienne a offert à une école dentaire de Bombay une collection complète du *Journal de l'A.D.C.*

Le Sir Currimbhoy Ebrahim Memorial College and Hospital, à Bombay, a augmenté ses disponibilités pour l'enseignement dentaire en établissant un cours qui confère une maîtrise en chirurgie dentaire. La bibliothèque, à cause de ces nouveaux besoins, a dû être mieux garnie. C'est par l'entremise du Ministère des affaires extérieures d'Ottawa que cette invitation était parvenue à l'Association.

Publication du C.R.D.C.

Le Corps Royal Dentaire Canadien vient de publier le premier numéro d'un journal trimestriel appelé "R.C.D.C. Quarterly". Cette revue est la première publication du C.R.C.C. devant paraître à intervalle fixe, depuis que le "R.C.D.C. Newsletter" a cessé de paraître en 1953. Le but de ce journal, qui renferme des articles et des nouvelles au sujet des membres professionnels et non-professionnels du corps, a pour but de per-

mettre au personnel du service dentaire des forces armées d'échanger des nouvelles et des opinions.

Le président de l'A.D.C. assiste au Congrès du Centenaire de la Société Dentaire de Suède.

Le docteur William G. McIntosh, président de l'Association dentaire canadienne a représenté celle-ci aux célébrations du centenaire de la fondation de la Société Dentaire de Suède qui ont eu lieu à Stockholm du 17 au 20 août. Des dentistes de toutes les parties du monde ont participé à ces réunions. Ce congrès de quatre jours comprenait un programme scientifique élaboré: conférences, cliniques, films, expositions. Des activités sociales nombreuses complétaient ces célébrations.

Distribution de tirés-à-part de rapports économiques

On pourra se procurer des tirés-à-part du Bureau des Recherches économiques de l'A.D.C. une fois que le journal les aura publiés. On indiquera dans les Lettres aux Gouverneurs les livraisons du *Journal* qui renfermeront ces rapports. On obtiendra ces tirés-à-part du *Journal* en s'adressant au Secrétariat de l'A.D.C. Les résultats d'une enquête sur l'âge des dentistes canadiens, comme on l'a déjà mentionné, a paru dans la livraison de juin du *Journal*. Le numéro de juillet contenait un rapport sur l'étude qui a été faite en Angleterre sur la rémunération des hommes de profession qui font partie du service national de santé.

Bulletin de l'Institut national canadien du cancer expédié aux membres de l'A.D.C.

La livraison de mars-avril du "The Cancer Bulletin", grâce à la gracieuseté de l'Institut national canadien du cancer, a été distribuée à tous les membres de l'A.D.C. On peut y lire, à la page 28, une entrevue donnée par le docteur P. E. Boyle, doyen de la faculté dentaire de la Western Reserve University, où il discute du rôle du dentiste dans le dépistage précoce du cancer.

Revision du fascicule du Plan d'Épargne-Retraite de l'A.D.C.

L'A.D.C. vient de publier une nouvelle édition du fascicule qui expose son Plan d'Épargne-Retraite. Ce plan a débuté en décembre 1957 pour permettre aux dentistes de profiter de la déduction accordée sur l'impôt sur le revenu pour les primes payées à des plans d'épargne (genre placements) en vue de la retraite. Ce plan d'Épargne-Retraite de l'A.D.C. constitue un supplément logique à son plan d'Assurance-Pension. On peut se procurer ces nouveaux fascicules en écrivant au Plan d'Épargne-Retraite de l'A.D.C., 2249 Yonge Street, Toronto 7. On peut y obtenir aussi des renseignements supplémentaires.

Découpage de Journal

"Le public se prononce de plus en plus en faveur de la fluoruration. La plus grande partie de la population a foi en l'Association dentaire canadienne, quand elle déclare que seulement un tiers des citoyens reçoivent des traitements dentaires adéquats et que les méthodes actuellement employées ne pourront jamais contrôler la carie dentaire."

Belleville, Ontario, Intelligence.

Invitation aux candidats pour le prix Villain

La Fédération dentaire internationale a annoncé qu'elle reçoit dès maintenant les inscriptions des candidats au prix Georges Villain de 1962. Ce prix, qui consiste en un montant d'argent payé en francs français, est attribué tous les cinq ans à un travail jugé le plus remarquable sur l'orthodontie ou la prothèse. Le concours de 1962 portera sur la prothèse. La date finale pour s'inscrire au concours a été fixée au 1er août 1960. Le prix sera présenté au XIIIe Congrès Dentaire International qui aura lieu à Cologne, Allemagne, en 1962. Il fallait envoyer les noms des candidats au Professeur W. Krogh-Poulsen, College Dentaire Royal, 4 Universitetsparke, Copenhagen, Danemark.

L'Association dentaire américaine endosse le dentifrice Crest

L'A.D.A., pour la première fois, a endossé officiellement une pâte à dents, la Crest, comme étant un agent efficace contre la carie. Le Conseil des Thérapeutiques dentaires qui paraît dans la livraison du mois d'août du Journal de l'Association dentaire américaine, écrit:

On a prouvé que le dentifrice Crest agit efficacement contre la carie dentaire (prévenant la carie); il peut jouer un rôle important si utilisé d'après un plan consciencieusement suivi d'hygiène buccale et de soins professionnels réguliers; le dentifrice Crest peut être de grande valeur comme supplément à un programme d'hygiène publique.

Le principal ingrédient actif de cette pâte à dents est le fluorure d'étain. Le Conseil spécifie qu'il n'accorde son approbation qu'à ce produit spécifique. "Aucun des autres dentifrices qu'a analysés à date le Conseil n'a montré avoir les propriétés que celui-ci considère comme indispensables pour être vraiment efficace," déclare le docteur Lester W. Burkett, de Philadelphie, président du Conseil. Le docteur Burkett ajoute: "Le dentifrice à base de fluorure d'étain est un adjuvant pour combattre la carie dentaire; ce n'est pas une panacée. Il ne remplace pas la fluoruration des eaux de consommation. La fluoruration, qui a été l'objet de longues recherches, demeure le meilleur moyen de bénéficier des avantages des fluorures. Nous

espérons que des recherches supplémentaires nous permettront de clarifier davantage le rôle joué par le dentifrice Crest ou par d'autres dentifrices dans la prévention de la carie dentaire."

Trois facteurs ont motivé la décision du Conseil: la sécurité, l'efficacité et l'honnêteté de la réclame. Le Conseil, en prenant sa décision, a tenu compte des résultats des recherches cliniques qui ont duré dix ans et "de la bonne volonté des manufacturiers de s'en tenir, dans leur réclame, aux constatations révélées par des recherches adéquates."

Le dentifrice a été l'objet de sept séries de recherches cliniques et ces recherches ont varié de une à deux années.

Les sept groupes qui ont servi aux recherches ont tous montré une fréquence de carie moindre que celles des autres groupes-témoins qui employaient des dentifrices sans fluorure d'étain. "Toutefois, déclare le Conseil, le taux extraordinaire de la diminution de la fréquence de la carie pour chaque groupe peut difficilement s'expliquer sans connaître les conditions particulières de chacun des tests." Un groupe utilisant le dentifrice "à la maison, dans des conditions normales", a montré une baisse de 23% d'incidence de carie; un autre groupe, qui brossait ses dents, sous contrôle, une fois par jour, a montré une diminution de 34%; un troisième groupe, employant le dentifrice trois fois par jour, sous contrôle, une baisse de 57%.

Le Conseil souligne que les écarts des pourcentages "montrent qu'il faut souvent se servir du dentifrice Crest pour obtenir les meilleurs résultats et qu'il faut, en plus d'employer Crest, suivre un protocole de bonne hygiène dentaire", comprenant l'emploi judicieux d'une brosse à dents, des traitements périodiques et une consommation modérée de sucreries.

L'Association recommande trois méthodes pour profiter des avantages des fluorures (1) consommation de fluorures, dont la meilleure formule est la fluoruration de l'eau des aqueducs publics; (2) l'application directe de fluorures par le dentiste sur les dents des enfants (3) l'usage d'un dentifrice contenant du fluorure d'étain. La fluoruration est selon le Conseil la façon la plus commode, la plus efficace et la moins coûteuse des trois méthodes; le Conseil déclare que ces recherches préliminaires, qui ne peuvent pas encore fournir de conclusions définitives, laissent croire que les avantages de ces trois méthodes peuvent s'additionner les uns aux autres.

Un rapport complet des constatations de l'A.D.A. a paru dans la livraison d'août du Journal de l'A.D.C.

Une clinique dentaire, dont les frais d'administration sont réduits au minimum, s'ouvre au Manitoba

Le docteur Fred Parrott, président de l'Association dentaire du Manitoba a fait part des nominations faites au comité d'administration de la nouvelle clinique dentaire à peu de frais qui doit s'ouvrir bientôt à Winnipeg.

Deux laïques, selon les clauses de la loi dentaire qui a été récemment amendée par la Législature, ont été nommés par le ministre de la Santé et ces messieurs travailleront avec quatre dentistes au sein du comité.

La Winnipeg Free Press écrit dans ses pages: "La clinique, sans qu'elle fasse d'enquête sur les ressources de ses patients, s'établira pour ceux qui ne peuvent pas payer les honoraires ordinaires du praticien."

"L'Association défraiera les frais des dentistes compétents qui y travailleront," a déclaré le docteur Parrot. Il a mentionné que les dentistes du Manitoba ont pris cette décision en regard d'une partie de leur programme de service public à la population du Manitoba qui a besoin de prothèse et qui ne peut les payer."

Le docteur Parrot a souligné que le comité va commencer son travail de préparation de façon à ce que les résidents d'Alberta puissent profiter de cette clinique le plus tôt possible.

Les amendements effectués à la loi dentaire par la Législature, à sa dernière session, prévoyaient l'établissement de cette clinique à peu de frais. Les services de cette clinique seront mis à la disposition de toutes les classes de la population. L'Association dentaire du Manitoba aura la responsabilité de recueillir les fonds pour organiser cette clinique, y embaucher le personnel et l'administrer. Le docteur George Johnson, ministre de la Santé et du Bien-Etre public, a exprimé sa reconnaissance à l'Association dentaire du Manitoba pour ce qu'il a qualifié "leur geste rapide en s'organisant pour fournir des prothèses à peu de frais aux résidents de la province." Il a déclaré que cette clinique comblerait un besoin au sein de la population et a promis la collaboration la plus entière de son ministère pour que cette entreprise procure "un réel service à la province." Il n'y aura pas d'enquête faite sur les ressources pécuniaires des patients de cette clinique, où ceux-ci pourront se procurer à bon compte des prothèses complètes, supérieures et inférieures, sous la surveillance de dentistes."

La tentative des "denturistes" échoue à Washington

La tentative des "denturistes" de l'Etat de Washington pour faire inscrire sur le bulletin de vote de l'élection générale de novem-

bre prochain l'octroi de licence aux techniciens des laboratoires dentaires s'est terminée en échec.

Il fallait 100,000 signatures avant le 8 juillet pour que cette question fasse l'objet d'un référendum.

La date limite est arrivée sans qu'on se soucie de recueillir le nombre requis de signatures et qu'on les remette au procureur-général.

Cette nouvelle loi aurait créé une nouvelle catégorie de détenteurs de licence, connus sous le nom de "denturistes" qui ne sont pas des dentistes en règle, mais qui auraient eu le droit de "confectionner, ajuster, réparer des dentiers pour des bouches humaines en santé et sans dents."

L'Association dentaire de l'Etat de Washington avait organisé une campagne vigoureuse contre cette initiative.

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PAGES EDITORIALES

Le praticien et la recherche

Les recherches dentaires, depuis quelques années, connaissent un essor formidable. C'est qu'on s'est rendu compte, au Canada, que les praticiens, qui diminuent en nombre en rapport avec la population du pays, ne pourront jamais maîtriser les dégâts causés par les maladies de la bouche et des dents d'une population qui augmente en chiffre et en éducation. La réponse à ce problème se trouve dans les recherches qui décèleront des moyens de prévention pour les pathologies communes, des méthodes de les traiter plus rapidement et plus efficacement, des techniques pour soigner plus de gens en moins de temps, des plans pour rendre ces traitements plus accessibles à toutes les classes de la population, enfin des façons de mieux équilibrer le rendement du personnel dentaire dans le domaine thérapeutique. Où se place le praticien dans cet intérêt pour les recherches? Quelle doit être son attitude en face de ces travaux de laboratoire et de bibliothèque?

Le dentiste, en prenant connaissance des recherches scientifiques de sa profession, peut en tirer un grand profit, car il rencontre dans sa clientèle des problèmes qu'il ne peut pas résoudre.

Il doit non seulement se renseigner sur les recherches en cours, mais, pour ne pas laisser tout le travail aux chercheurs, tenter aussi des expériences et se

montrer curieux des phénomènes qu'il observe. Cet esprit le portera à améliorer ses techniques et à utiliser des matériaux plus au point au bénéfice de ses patients.

L'importance accordée aux recherches au cours des dernières années et l'ampleur des projets — tant pour les sujets que pour les fonds qui leur sont consacrés — portent le dentiste à se désintéresser des problèmes qui se posent et à se confier aux chercheurs de métier. Cette mentalité est mauvaise. L'histoire de la dentisterie nous enseigne que nombres d'observations notées tous les jours dans les cabinets dentaires en pratique journalière ont permis d'élaborer des techniques et des matériaux utilisés couramment aujourd'hui. Des hommes, comme G. V. Black, ont décelé chez leurs patients et enregistré des faits qui leur ont permis d'élaborer des principes que l'avenir n'a pas niés et qui ont influencé l'exercice de notre profession.

Le praticien ne doit pas minimiser le rôle qu'il a à jouer dans le domaine des recherches: il fait part aux chercheurs des difficultés de la pratique et juge la valeur des solutions proposées. Il faut que le dentiste non seulement lise les rapports des recherches, mais aussi s'y intéresse avec un esprit critique. Cette réaction en face des recherches le portera à surveiller sans cesse ses techniques de

tous les jours. Cela ne veut pas dire qu'il lui faille varier sans arrêt ses méthodes de travail et accepter aveuglément tout ce qu'il lit: il lui faut choisir entre l'ivraie et le bon grain! Les bonnes techniques qui ont subi l'épreuve du temps ne doivent pas être délaissées parce qu'un chercheur en a trouvé une autre. Alexander Pope disait: "Ne sois pas le premier à utiliser du neuf, ni le dernier à mettre de côté du vieux".

Les principes de base ont toujours leur importance et ils sont le rempart contre lequel se brisent les idées prématurées et sans fondement.

Le praticien a la responsabilité de juger, à la fin des recherches, de la valeur des nouvelles méthodes de traitement et des

nouveaux matériaux. Car il est chargé de la santé dentaire de la population. Le chercheur a une fonction à remplir; le praticien en a une autre; ces deux rôles se complètent pour l'avantage du public.

On a tendance, à notre époque des Spoutniks, à glorifier le savant au détriment de l'artiste. La profession dentaire repose sur deux bases: la science et l'art. L'une ne doit pas empiéter sur l'autre. La dentisterie, à son début, était surtout un art, mais durant la dernière génération, elle s'est tournée plutôt vers la science. Les recherches dentaires mettent l'accent sur la science; le praticien sur l'art. Cet équilibre entre le chercheur et le dentiste permettra à notre profession de rendre de meilleurs services.

GERARD de MONTIGNY.

Nouvelles du Corps Dentaire Royal Canadien

Réunions de l'Association dentaire

Le colonel H.L. Harris, de la Direction des Services dentaires, au Quartier-général de l'Armée, à Ottawa, a représenté le directeur général des Services dentaires au Congrès de l'Association dentaire de l'Est de l'Ontario, qui a eu lieu à Ottawa, du 13 au 15 septembre.

Le major A.G. Andrews, de la Station de l'Aviation royale du Canada, à Rockcliffe (Ont.) a présenté à la même réunion un mémoire intitulé "Current Drugs in Dentistry".

Cours

Le major E.J.C. Small, d'Halifax (N.-É.) a suivi un bref cours en prothèse dentaire (couronne et bridge), à l'Université de Michigan, du 19 au 30 octobre.

Le major Carmichael est affecté au Moyen-Orient

Le major J.D. Carmichael, de Vancouver (C.-B.), qui était en service au HMCS Shearwater, à Dartmouth (N.-É.), a été affecté au Détachement des Services dentaires des unités de base canadiennes, au Moyen-Orient.

Affectations au Canada

Les nominations suivantes ont eu lieu récemment:

Le capitaine W.R. Black, qui était attaché au Quartier général de l'Aviation, à Ottawa, a été affecté à la Station de l'ARC, à North-Bay (Ont.), à compter du 15 septembre 1959.

Le capitaine R.D. Bunt, qui était à la Station de l'ARC, à Lachine (P.Q.), a été affecté au 25e Dépôt central des magasins militaires, à Longue-Pointe (P. Qué.), à compter du 14 septembre 1959. Le capitaine S.M. Claman, qui était en service à Winnipeg (Manitoba), a été affecté à Fort Churchill (Manitoba), à compter du 19 septembre 1959.

Le capitaine C.J. Edwards, qui était affecté à la Station de l'ARC, à Cold Lake, Alberta, a été nommé à la Station de l'ARC, à Penhold (Alberta), à compter du 1er août 1959.

Le capitaine J.I. Gordon, qui était en service au Quartier général du Secteur militaire de Terre-Neuve, à Saint-Jean (Terre-Neuve), à été affecté au HMCS Stadacona, à Halifax (N.-É.), à compter du 2 septembre 1959.

Le capitaine D.J. MacPhee, qui était à la Station de l'ARC, à North Bay (Ont.), à été affecté à la Station de l'ARC, à Downsview (Ont.), à compter du 3 septembre 1959.

Libérations

Les officiers suivants ont été libérés du Corps:

Le major R.G. Darling, de Cache Bay (Ont.)

Le capitaine R.G. Perry, de Gardston (Alberta).

The Canadian Dental Association

Volume 26

Number 11

Toronto

November 1960

JOURNAL

Where Do We Go From Here?

W. G. McINTOSH, D.D.S., M.Sc.D., Toronto, Ontario

Now, ladies and gentlemen, the agenda for this Canadian Dental Association annual luncheon meeting, as usual, calls for a President's address. The same agenda, fortunately for you, ladies and gentlemen, also limits this address to about ten minutes.

I say "fortunately", because my term of office has been filled with so many interesting and, I think, vital developments about which it is not a bit hard to be

enthusiastic, that if it were not for this time limitation I might be tempted to try to share with you the whole wonderful experience of being President of the Canadian Dental Association.

If I remember correctly my opening sentence to this same meeting a little over a year ago in Halifax was that I was thrilled to be the President of this organization. I still am. Meeting with the C.D.A. members from coast to coast, experiencing the warm hospitality of their homes, sharing their problems and together trying to work out situations with an eye to future

Presidential address delivered at the annual meeting of the Canadian Dental Association, Ottawa, September 26, 1960.

improvements has been a truly enviable experience for me—an experience which I shall never forget and one that has made me very proud of our national organization. I presume this is at least partly the result of learning a good deal about its activities and interests that were previously not known or understood by me. This in itself has been a rich experience that I would like to be able to share with every C.D.A. Member.

Since this is your national organization's annual luncheon meeting, my first pleasant duty on behalf of the Canadian Dental Association is to welcome each of you to this national meeting, to wish you a happy and profitable convention, and on your behalf to thank Dr. J. Coupland, the General Chairman, and his fine Convention Committee for the wonderful arrangements that have been prepared for us.

It has become customary at this meeting to draw attention to the Canadian Dental Association War Memorial Award which is made annually from a fund donated by dentists to honour their colleagues killed in two World Wars. The award takes the form of a first and second prize, given for the best two essays written in competition by senior dental students from Canadian schools.

This year both prizes were won by members of the graduating class of McGill University. Stanley Frodyma won the first prize, and Howard Zuckerman, the second. The title of the essays was "The Role of Dentistry in Public Health".

It is sincerely hoped that this form of war memorial provides a living memory of our colleagues who made the supreme sacrifice.

I do not intend in this address to give you a chronicle of the events of the year. The topic about which I do wish to speak for the next few minutes could be entitled, "Where do we go from here?" This is the question, stated in many different ways, which has been expressed by dentists and dental organizations from one coast of Canada to the other. It is good that we are asking because this indicates that there is realization that the dental profes-

sion cannot continue to adequately serve, and be the highly respected profession that we all want it to be, without making some changes in accord with our changing times.

The rapid expansion of our population, the steady worsening of the ratio of dentists to population, the increasing demands for better health care for all, the trend toward socialization of health services, the turn toward pre- and post-payment programs to cover practically every commodity and service, plus the new dental equipment and methods of practice are just a few of today's modifications which are making those concerned with the future of our profession ask this question, "Where do we go from here?" These new social and scientific developments are creating problems for us today but they become colossal hurdles as we look into the future.

One possible outcome which can and likely will result from a complacent attitude by the profession, is the establishment of a dental program, controlled and administered by other than the dental profession, in which, if the experience in other countries where this step has already occurred is any criterion, the quality and eventually the quantity of service rendered will be reduced, individual initiative will soon be lost, and the professional standards for which our forefathers have worked so diligently and which we have all enjoyed, will soon be lost. If this is what we want, then doing nothing but hiding our heads and blindly continuing our present good, but not good enough, dental programs, will very rapidly bring such a situation upon us. The changing pattern of today's society will see to it that we do not have long to wait.

What then can we do? Perhaps too often our thinking stops at about this point and we focus on failure. If possible I would like to leave you this afternoon looking at the image of success. For I sincerely believe that, with the right attitude and the will to work and to adjust to changing environments, we can be successful in supplying good dental service to more

people, and at the same time maintain a professional standard of which we can all be proud.

One very necessary decision is to move forward; history has shown that we cannot stand still. It probably will be essential to change our views many times in the process of following through to success. But those who are to be pitied most are the ones who will not change their minds, who are trying to resist the twentieth century and to live in the past. To resist change, to refuse to adapt to it, is like speeding on over-crowded highways: If you persist, you kill yourself and others who have relied upon you. "To follow through is to search for new ideas, to proceed from clumsiness to skill, to avoid complacency and seek advancement, to look for a better way of doing things."

Today, dreaming about Sir Thomas More's Utopia and other great achievements can be inspiring, but one has to come back to the reality of a starting place. One is always starting from where one is now. It becomes a matter then of first assessing and realizing the nature of our present position.

On the subject of following through, one author has stated that after knowing your present position there are five things to do: fix your purpose; make sure it is the right one; search out the ways by which you may reach it; study the details about these ways; and get busy.

Meeting and dealing at once with the problem at hand always increases the probability of success. Nothing accomplishes the big jobs like getting the little ones done. You will remember the proverb, "The best way to peel a sack of potatoes is to take one potato at a time and peel it".

By this time you are probably wondering what these latter comments have to do with our dental problems. I believe they are most pertinent. At the recent Board of Governors' Meetings of the C.D.A., your representatives tried to assess dentistry's present position; tried to set down ways and means of reaching our goal and

gave some study to the details of the proposed methods. There is one point left, and that is to get busy.

It is true that the proposals passed by the Board of Governors were not agreed to by everyone. But after lengthy discussions and study certain ones were approved as a starting point in a sincere attempt to meet the environmental changes already referred to. A wise and successful man once gave this advice to a young man starting his business career: "Do the wise thing if you know what it is, but anyway do something — the wisest thing you know". This is what your Association is trying to do, and we need every member's help in getting busy to put the program into operation.

In a recent Royal Bank monthly Letter, the author wrote about the courage it sometimes takes for new or different starts in life and the difficulty of making decisions. He pointed out that difficult or not, decisions have to be made. There is, as a rule, much more likelihood for the man of action to succeed than the one who, being undecided, lets the world go by him while he is making up his mind. The author goes on to say: "Deliberations and analysis are, in risky situations, positive approaches to dynamic action. Tidy up your problems so that you can decide quickly and with certainty what to do. Analysis is the foe of vagueness and ambiguity and hesitancy".

What is the cause of the foolish air some people have of always being shocked and surprised by the things that happen around them? It is lack of foresight. They have not made themselves aware of the changes that are taking place; they have not kept up to date; they are taken unaware by the consequences of causes they did not know existed. When a person has analyzed the present, and looked ahead to appraise the worst that can happen in the future, he is protected against shock and he is ready for the appropriate action.

Ladies and gentlemen, this is a constructive sort of preparation. It is my opinion that no more important account of the year's activities could be given than

to say that this has been the attitude and outlook of the officers and committees of your national organization. It is my sincere hope that it will become the attitude and the dedicated undertaking of every dentist in Canada.

In closing, may I again say what a privilege it has been for me to work with

so many fine people during my term of office. The members of all committees, the headquarters staff and all my associates across Canada have been most cooperative and helpful. This fine spirit and cooperation shown on all sides is typical of our Association and the reason we can look forward with such confidence to the future.

170 St. George St.

Virus Infections of the Mouth and Throat

DONALD M. McLEAN, M.D., Toronto, Ontario*

The mouth and throat are the portals of entry into the body of a considerable range of virus species pathogenic for man. They also serve as a convenient and efficient means of dissemination of viruses to fresh hosts. Furthermore the mouth and throat frequently develop lesions characteristic of infection with a particular virus. In some instances these lesions occur concomitantly with a generalized skin eruption, indicating widespread dissemination of virus throughout the body, or they may be the sole localized manifestation of viral infection.

The wide range of human viruses which may induce symptoms referable to the mouth or throat are shown in Table 1. In general, viruses which invade and cause disease of the respiratory tract or vesicu-

lar eruptions of the skin cause disturbances to the mouth and throat but those viruses which enter the body via the intestine (the Enteroviruses) or by subcutaneous or intradermal injection (the Arboviruses and Rabies) usually do not cause lesions of the oropharynx. However infection with the Psittacosis-Ornithosis group of viruses which regularly results in the production of pneumonitis is not usually associated with oropharyngeal lesions. Amongst the enteroviruses, vesicles are found typically in infections by six viruses belonging to Cocksackie Group A (A2, A4, A5, A6, A8, A10) in Washington, D.C.⁽¹⁾, and in a Toronto suburb during the 1957 summer, Cocksackie A16 virus was incriminated as aetiological agent in an outbreak of febrile illness accompanied by vesicles in the pharynx and an exanthem⁽²⁾. Although infection with a Poliovirus is followed regularly by presence of virus in

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TABLE I
VIRUSES WHICH CAUSE LESIONS IN THE MOUTH AND THROAT

MANIFESTATION OF INFECTION OF MOUTH AND THROAT

VIRUS	SYMPTOMS	SIGNS
Psittacosis	Cough, sore throat	nil
Smallpox	sore throat	focal rash, vesicles in mouth
Herpes simplex	anorexia, sore mouth	vesicles on lips, gums, buccal mucosa
Herpes Zoster (trigeminal)	deep pain in fauces	vesicles on fauces
Varicella	sore throat	vesicles in mouth
Measles	sneezing, cough	Koplik's spots, flabby tongue
Influenza A, B	cough, dry throat	reddened throat
Parainfluenza 2	croupy cough, stridor, hoarseness	tracheitis
Mumps	Swelling of face, dry mouth	parotitis submandibular adenitis, reddening of orifice of Stensen's duct
Adenovirus	cough, sore throat	injected pharynx
Poliovirus (bulbar)*	nasal voice, dysphagia	palatal and pharyngeal paralysis pooling of secretions in pharynx
Coxsackie A	sore throat, anorexia, dysphagia	vesicles on palate and fauces
Coxsackie B	nil	nil
ECHO	nil	nil
Kyasanur Forest Disease	anorexia	petechiae on soft palate, bleeding gums

*Infections with poliovirus involving areas apart from the vago-glossopharyngeal nuclei cause no symptoms or signs in the mouth and throat.

the mouth and throat for a few days⁽³⁾, viral multiplication at this site occurs in the absence of visible lesions. Similar results are observed following infection with the Coxsackie B Viruses, Coxsackie A9 and the ECHO viruses. However, should the vago-glossopharyngeal nuclei be affected as a result of poliovirus multiplication within the central nervous system, paralysis of the muscles of the soft palate and/or pharynx ensue. Following infection with an arbovirus a generalized infection with viraemia occurs, but skin and mucous membranes usually show no lesions.

However infection with the virus of Kyasanur Forest Disease⁽⁴⁾ may result in haemorrhagic injection of the soft palate accompanied by a papulo-vesicular eruption, and less commonly blood may ooze

from the gums. Infection with the virus of Omsk Haemorrhagic Fever may produce a similar picture in the mouth⁽⁵⁾.

There are three important natural means by which a virus may enter the cells of a new host⁽⁶⁾:

1. Deposition of the virus on a susceptible surface cell of, for example, the conjunctiva, the respiratory epithelium, or the intestinal mucosa;
2. contamination of abrasions of the skin or superficial mucous membrane;
3. injection by the bite of some arthropod.

Having gained access to the cells of a new host, virus may proliferate and spread by one of the following modes: (1) direct extension along tubes or cavities lined by epithelium, as in influenza

virus infections; (2) for the pox viruses following a brief period of multiplication at the site of entry, virus is conveyed by lymphatics to regional nodes where further multiplication occurs; virus then enters the blood stream thereby reaching macrophages of the reticulo-endothelial system where it undergoes further multiplication and a high titre viraemia ensues; (3) for the arbor viruses, following bite by an arthropod the virus rapidly enters the blood vascular system and extensive multiplication occurs in cells of the vascular endothelium, resulting in production of a high titre viraemia 2 days later.

Multiplication of virus may cause no detectable damage to tissues in which virus enters the body, for example poliovirus in the oropharynx, or it may induce the formation of a characteristic vesicle as in the case of herpes simplex implanted in an abrasion of the lip. Following spread of viruses from the portal of entry via the blood stream, lesions characteristic of infection with a particular virus may be seen on the buccal mucosa, for example Koplik's spots in measles, or on the palatal and pharyngeal mucosa such as vesicles in varicella or petechiae in Kyasanur Forest Disease.

INFLUENZA

Influenza infection in man appears to be limited to the ciliated epithelium of the respiratory tract⁽⁶⁾. Following inhalation of virus in droplet nuclei directly into the lung, virus particles are deposited on ciliated epithelial cells of the bronchioles. Following adsorption of virus to the surface of cells by the specific receptor mechanism, virus enters the cells, undergoes multiplication and numerous daughter virus particles are liberated on the cell surface, whence they spread to adjacent cells. Damage to bronchiolar epithelial cells as a result of virus multiplication evokes the changes seen in acute catarrhal inflammation with outpouring of mucus and desquamation of epithelium into the lumen of bronchioles, hyperaemia of peribronchiolar and alveolar vessels

and infiltration by mononuclear cells. Pulmonary alveoli whose walls are hyperaemic may contain mononuclear cells in an exudate of oedema fluid. Coughing may assist in spread of infection to other segments of the lung. The exact degree of damage of pulmonary tissue due to action of virus alone is difficult to evaluate in man, owing to the frequency with which superimposed staphylococcal or other bacterial infection is found in fatal cases.

MUMPS

Although mumps virus has several properties in common with the influenza viruses such as ability to cause agglutination of avian and mammalian erythrocytes, possession of the enzyme neuraminidase and ability to multiply in amniotic and allantoic cells of the chick embryo, its course of infection in man differs vastly from that following infection with an influenza virus. Mumps virus conveyed in droplet nuclei lodges on epithelium of the respiratory tree. Following limited multiplication in these epithelial cells without causing detectable lesions it enters the lymphatics. Later mumps virus enters the blood stream from which it has been isolated⁽⁷⁾, and thereby it is conveyed to the salivary glands, meninges, pancreas, testes or ovaries, in which it may induce an acute inflammatory reaction. Isolation of virus from cerebrospinal fluid of cases of meningoencephalitis^(8, 9) confirms that mumps virus has caused the infection. Following spraying of attenuated living mumps virus into the mouths of volunteers⁽¹⁰⁾, virus was isolated from saliva 2 to 6 days before parotid swelling was first noted. Parotitis began 11 to 15 days after spraying of virus, and persisted for 4 to 5 days. Mumps virus is isolated most readily from mouth swab or saliva during the first 5 days of illness⁽¹⁰⁾. This supports the clinical rule that mumps cases should be considered infectious for as long as the parotid swelling persists. In 38 children who developed meningoencephalitis due to infection with mumps virus⁽⁹⁾, 16

patients showed no involvement of salivary glands. In 12 homes where the index case had meningoencephalitis together with parotitis, further cases of mumps were encountered subsequently in members of 5 families⁽¹¹⁾, whereas in 9 homes where the index case developed mumps meningoencephalitis without parotitis, no cases of mumps were observed in other family members.

MEASLES

Measles virus was first isolated from the blood and throat washings of measles patients in 1954⁽¹²⁾. Administration of a living attenuated avianized vaccine developed from the prototype Edmonston strain of measles virus to over 300 human volunteers⁽¹³⁾, has elucidated the pathogenesis of measles in man. Following exposure to natural measles the characteristic exanthem appears regularly after 14 days, but this is preceded for 1 to 5 days by prodromata such as fever, nasal catarrh and reddened eyes; Koplik spots which appear as bluish-white points on a reddened base are seen on the buccal mucosa during the prodromal and early exanthematous stages. Presumably the infection of initiation occurs in cells of the nasal or nasopharyngeal epithelium following entry of virus conveyed by droplet nuclei. Following entry of virus into the blood stream, probably via lymphatics and regional lymph nodes, it is conveyed to all parts of the body including the skin where it multiplies and evokes the characteristic maculopapular rash. Virus has been isolated from blood between 5 and 29 hours after onset of rash⁽¹²⁾. At this time it is also present in the throat, providing a ready source of virus for susceptible contacts.

Following subcutaneous injection of attenuated measles vaccine, 8 of 11 children developed fever 6 to 9 days later⁽¹⁸⁾ and 9 developed a modified morbilliform rash by the 11th day. Measles virus was not recovered from the blood or throat either at the time of vaccine administration or 5, 9 and 15 days later, but all children de-

veloped complement fixing antibodies by the 22nd day. Apparently subcutaneous inoculation of virus has facilitated entry of virus into the blood stream, and the incubation period was shortened by 3 days. Instillation of measles virus into the nose or conjunctiva of susceptible subjects⁽¹⁵⁾ was followed infrequently by clinical evidence of infection such as fever, rash and production of antibody, and no clinical or serological response occurred after oral administration of virus. This suggests that the infection of initiation occurs readily in the respiratory tract in the case of natural measles, and optimally in subcutaneous tissues in the case of measles vaccine.

ECTROMELIA

Ectromelia of mice (mouse-pox) has been proposed as a model of pathogenesis of the human viral exanthemata⁽¹⁶⁾. Virus enters the tissues of the mouse through minute skin abrasions, multiplication occurs at the local site and shortly afterwards in the regional lymph node. Virus enters the blood stream after the second day but it is rapidly taken up by macrophages of the spleen and liver in which it undergoes further multiplication, producing a high titre viraemia. Virus in blood is conveyed to the skin where multiplication reaches a peak on the sixth day. The primary lesion (swelling of the foot) occurs on the seventh day, and the rash (generalized papular ulceration) appears by the ninth day. Thus multiplication and localization of virus occurs wholly within the incubation period of the disease.

POLIOVIRUS

Poliovirus first undergoes multiplication at its sites of entry into the body, the throat and small intestine and in the lymph nodes draining these areas⁽³⁾. In chimpanzees, virus is first detected in throat swabs and faeces 2 days after feeding. From 5 to 7 days after feeding, virus may be isolated from the blood, and thus virus is conveyed to all parts of the body including the central nervous system.

Viral multiplication in the central nervous system is frequently followed by destruction of spinal cord or brain stem neurones or temporary interference with their function, resulting in flaccid paralysis of muscle groups supplied by these neurones. However, extensive viral multiplication which occurs in the cells of the mucosal lymphoid tissue in the tonsils and Peyer's patches of the ileum results in excretion of large amounts of virus in the throat and faeces, but viral proliferation occurs in the absence of detectable cell damage. Although poliovirus may be recovered from the throat during the first week after onset of paralysis, it is excreted in the faeces frequently for three weeks or longer. The epidemiological significance of poliovirus in faeces obtained more than two weeks after onset of paralysis, although unknown, is probably small, owing to the greatly decreased amount of poliovirus excreted.

Natural strains of poliovirus spread rapidly within families and close contacts, following infection of one susceptible member^(17,18). Similarly, in a community which had received Salk vaccine, poliovirus strains spread readily to family contacts, especially amongst those of low socioeconomic status, following administration of vaccine to one family member⁽¹⁹⁾ and some extra-familial contacts who became infected excreted virus for a few days only, whereas subjects who were fed vaccine excreted virus in faeces for periods ranging between 2 and 137 days. Living type 3 poliovirus vaccine was administered to some children in two communities which had not received Salk vaccine previously. Of 55 children with low prefeeding type 3 antibody levels, 53 excreted poliovirus for a mean of 22 days, and only 5 excreted virus for less than 3 days⁽²⁰⁾; and 38 children of 56 who had high prefeeding antibody levels excreted virus for a mean of 9.7 days, including 14 children who excreted virus for less than 3 days. Amongst contacts, 28 of 59 who had low initial type 3 antibody titres excreted type

3 poliovirus for a mean of 17 days, but 7 of these excreted virus for 1 to 3 days only. Of 60 contacts who had high initial antibody levels, 17 excreted virus for a mean of 6.8 days and 9 of these excreted virus for 1 to 3 days only. Many of those who failed to excrete virus longer than 3 days did not develop antibody. In some families who were not fed poliovirus vaccine, only one child became infected, whilst in other families, most children excreted virus at intervals of several days to several weeks from each other. These results demonstrated that the prolonged excretion of poliovirus type 3 by children with low or absent homologous antibody titres favoured spread of virus to extra-familial contacts. The latter who excreted virus for a few days only were poor sources of virus for transfer to other subjects.

HERPES SIMPLEX

Initial infection with herpes simplex virus usually occurs on the lips of children aged 1 to 3 years. Vesicles appear on the skin at the site of implantation of virus, but following initiation of infection an extensive vesicular eruption may occur over the buccal mucosa, accompanied by swollen reddened gums, fever and irritability. Secondary bacterial infection may supervene, but complete resolution of the mucosa is the rule. Recurrent attacks of herpes may occur in later life following a severe febrile upset, but formation of vesicles is limited to the initial site of entry of the virus. Between attacks, the virus appears to live in symbiosis with the epithelial cells of the lip. Following initial infection with herpes simplex virus, neutralizing antibody is produced, which prevents further spread of virus during exacerbations of disease. Epidemics of herpes simplex may occur amongst children in orphanages where a proportion of subjects may develop subclinical infections whereas others develop herpetic stomatitis⁽²¹⁾. Virus may be excreted in saliva both of those with clinical and subclinical infections and this is transferred readily to

other susceptible members of a family or an orphanage who chew playthings contaminated with saliva of infected children.

SUMMARY

The mouth and throat may act as a portal of entry of a wide range of viruses into the body. Herpes simplex and some Coxsackie A viruses may multiply in the buccal and pharyngeal mucosa, producing lesions which are characteristic of infection with the particular viruses, whilst poliovirus may be excreted in the throat following multiplication without inducing cell damage. Viruses including influenza and measles which multiply extensively in the respiratory tract are spread readily by exhalation of virus in droplet nuclei, whilst viruses such as herpes simplex which cause localized lesions in the mouth are spread efficiently by salivary contamination of objects which reach the mouths of many subjects.

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555 University Ave.

Periodontal Excision of the Palatal Root of Maxillary First Molars

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Palatal discomfort, particularly on digital pressure, around the palatal root of the first molar was reported by two patients. Examination revealed the following periodontal disorders in each case:

- (1) recession and pockets approaching the apex of the palatal root of the upper left first molar,
- (2) red, swollen and tender palatal tissue around this root, and
- (3) purulent exudate resulting from food debris, bacteria, etc., entrapped in the deep pockets.

Treatment presented two alternatives:

- (1) excision of the palatal roots, or
- (2) extraction of the teeth.

Excision of the palatal roots was considered to be the treatment of choice because mobility of the teeth was within physiologic limits due to good bone anchorage of the buccal roots.

The technique of excision of the palatal root embraced these steps:

- (1) adequate local anaesthesia,

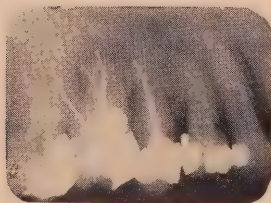


FIGURE 1

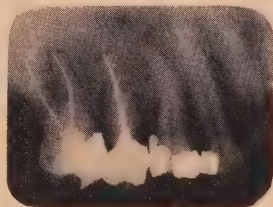


FIGURE 2



FIGURE 3

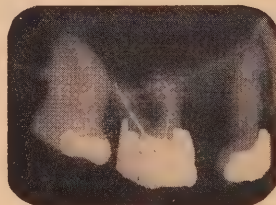


FIGURE 4

- (2) immediate filling of the three canals,
- (3) excision of the palatal root (where it joins the crown) with a fissure bur,
- (4) packing of the area with surgical pack for two weeks, and
- (5) reduction of the lingual bulk of the crown to permit a measure of tissue massage to be supplemented by after-meal "gum brushing".

Figure 1 from the first case shows the three canals filled and the area of osteitis around the apex of the palatal root.

Figure 2 shows the area a month after excision of the palatal root. The second molar was removed because it was grossly extruded due to the loss of the lower second molar fifteen years before.

Figure 3 from the second case also shows radiolucency at the apex of the

other palatal root. In this case, because the patient reported suppuration for over eight years, the palatal root was excised first to examine the bone covering the lingual surfaces of the buccal roots. It appeared adequate and so the two buccal canals were filled at once. Because the apex of the mesio-buccal root could be reached with a No. 2 file only, the file was resterilized, dipped in canal cement, forced into place and the end twisted off to remain as the apical filling of the canal.

Figure 4 shows the area four months after excision.

In both cases, the transition from the purulent, tender, swollen, hyperaemic tissue that surrounded the removed roots to the firm, pink, stippled mucoperiosteum covering the palatal bone of the buccal roots was a gratifying sight.

208 Medical-Dental Bldg.

Porcelain Veneers Bonded to Precious Metal Castings*

JOHN F. JOHNSTON, D.D.S., F.A.C.D.**, Indianapolis, Indiana

Bonded porcelain veneers, exclusive of the porcelain bridges fabricated around platinum alloy frames, have been used and accepted by the dental profession for approximately five years, although as long ago as 1938 a short-lived technique¹ was

introduced. Developed as a replacement for resin veneers, they have been highly satisfactory in some respects, partially successful in others, and frustrating to the rank and file of the profession and to many of the technicians. In 1959, Lyon, Cowger, Woycheshin, and Miller⁽¹⁾ concluded that all available gold-porcelain systems have inherent weaknesses which limit their application. That conclusion is true today.

Restricted application has been due in part:

¹Porson, made by Kalodent; special 1900°F. gold supplied by Aderer Company.

*Paper delivered at the Biennial Refresher Course, Faculty Dentistry, University of Alberta, Sept. 8-9, 1960.

**Professor and Chairman, Dept. of Crown and Bridge and Partial Denture Prosthodontics, Indiana University School of Dentistry.

- a) to individual manufacturers groping for the impossible instead of resources being pooled to effectively carry on adequate research;
- b) to the recent almost-universal use of resins which seemingly made it unnecessary to train dentists and technicians in the intricacies of ceramic techniques;
- c) to the reluctance of dentists and technicians to concentrate on learning how to handle and cope with the vagaries of the materials;
- d) to the disappointments engendered by over-zealous advertising and promotion conducted by some laboratories and manufacturers; and
- e) to the supine acceptance of inept workmanship by an alarmingly large segment of the profession.

In the preface of his text, "Partial Denture Construction," McCracken⁽²⁾ says:

"... as long as the technician accepts inadequate material from the dentist, and the dentist is willing to place an inadequate product in the patient's mouth, the quality of removable prosthetic appliances will continue to be, as it all too frequently is, a far poorer service than the dentist and the technician together are capable of rendering."

This statement applies equally well to veneered crowns and bridges, whether the veneer be resin or bonded porcelain. (Resin veneers, used with some discretion and fabricated with care, have given and continue to give admirable service. They should not be subjected to scorn even by the faddist or the unwilling worker.)

In December of 1955, Brecker⁽³⁾ gave a clinic before the Greater New York Academy of Prosthodontics, in which he showed a technique for firing porcelain onto a special gold alloy (NuDent). In February of 1956, a clinic was presented before the American Academy of Restorative Dentistry by Johnston and Dykema,⁽⁴⁾ who used a combination of materials (Ney) different from that displayed by Brecker. At about this same time, another

technique (Permadent) was brought out, this one employing an extremely high fusing alloy and a high fusing porcelain.

Prior to these clinics, a considerable number of restorations made from each combination, both single-unit and assembled bridges, had been placed in the mouth. It is believed that the first single bonded porcelain veneer crown, fabricated from materials with which relative balance had been achieved, was placed on an upper lateral incisor early in 1954. As of July 1960, even though it had been seated with a check in the veneer, it was still in the mouth, intact.

All of these materials were tested in some manner in a number of schools, by the Bureau of Standards, and by other testing companies. These tests were designed to show:

- a) comparative strength of the porcelains employed,
- b) adequacy of the bonding (whether mechanical or chemical),
- c) resistance to corrosion in the oral environment,
- d) fit of the castings,
- e) resistance of the alloy to deformation, and
- f) reactions in the mouth fluids.

Of the three alloys referred to, the one manufactured by the J. M. Ney Company could be cast to any desired fit⁽⁵⁾ by using equipment ordinarily found in the dental office laboratory. The other gold alloys required a hotter flame and special investments, and it was more difficult to cast to a predetermined fit. The extremely high fusing alloy was not adaptable to the techniques or equipment which could be placed in the dental office and consequently was sold to and used by franchised laboratories only.

The author has been privileged to examine many crowns and bridges cast with high fusing Permadent alloy, both on dies and in the mouth, and has found routinely that these castings did not fit. Whether this was owing to faulty technique or to characteristics of the alloy and/or the investments, is not known.

The solders which were designed to be used with these alloys were of necessity made with altered percentages of or with no base metals. They were sluggish, oxidized easily, and were quite exasperating to use. The joints produced were frequently faulty.

The Ney alloy (Ney-Oro P-9) and porcelain are still available but both the formula of each and the fusing and firing ranges of the alloy and porcelain may be altered. There is assurance, however, from responsible persons connected with that company that they do not anticipate withdrawing from the bonded porcelain veneer field. The integrity of the J. M. Ney Company makes this good news.

The NuDent alloy and porcelain are available now through only two or three commercial laboratories. The Permadent Company, following some radical changes in both alloy and porcelain, is in recess at the present time or out of business.

Probably the most popular technique today, at least in the eastern half of the United States, is that which uses Ceramco porcelain on an alloy manufactured by both the J. F. Jelenko and Aderer Companies. Ceramco porcelain is being produced by a group of men formerly associated with the Permadent Company. The alloy (Ceramco No. 1), developed through research conducted by these same men, in association with Jelenko and Aderer, is compatible with the porcelain; that is, their coefficients of expansion are in balance with slight, predetermined excess in the alloy.

Two high palladium-content alloys, and accompanying porcelains, are known as Ceramicast and Microbond. These alloys require special equipment for fusing and casting, and the porcelains which bond to them are in the high fusing or near-2400° range. Once again the major problem is one of making castings which fit. Also, the grey colour of the alloys is not pleasing.

Ticon, a chrome-cobalt alloy developed by the Ticonium Corporation, is being advocated for use with several porcelains.

The author has seen no castings or restorations made using this material.

At Indiana University, 4½ years were spent doing clinical and laboratory research on the Ney product. These conclusions⁽⁶⁾ were reached:

- (1) that it could be cast to any type of fit which the operator desired by using cristobalite and control powder investments and a gas and air blowpipe.
- (2) in the testing laboratory and in the mouth, it demonstrated the physical properties of a type "C" crown and bridge gold.
- (3) it could be polished to a very high lustre.
- (4) it did not tarnish readily.
- (5) soldering is not easily accomplished.
- (6) the bonding was predominantly chemical.
- (7) if a vacuum-fired veneer is to be built, castings of Ney P-9 gold should be degassed, either by heat or by vacuum, at a temperature 50 to 100° above the fusing point of the porcelain. The oxide on the surface to be veneered can be removed without contamination.
- (8) rigidity of the metal is mandatory.

Again in the testing laboratory, this porcelain showed a little better, although not significantly better, results. Bonding was particularly good, even when tested with radioactive isotopes. Only when the firing was done in a vacuum furnace was there any evidence of penetration.⁽⁷⁾

The Ney porcelain is a low fusing porcelain, with many of the advantages, as well as the disadvantages, of such a material. Handling characteristics are average. Shading has been a problem—still is to a lesser degree—and there continue to be occasionally some inconsistencies in the results. It is now felt that these inconsistencies are due, to some extent, to the porcelain itself which seemed to vary slightly from jar to jar, and also that the fired pigments in the opaques are erratic and sometimes there is some staining from the copper oxide which develops on the metal.

These idiosyncracies could be overcome or prevented, for the most part, when one has used the materials long enough or frequently enough to understand their requirements. To date, we have produced something short of 1,000 veneered units, many of which we consider most complementary to their environment. Clinically most of these have been placed in anterior segments, bicuspid to bicuspid, some between natural teeth, and they satisfy almost all aesthetic demands. There have been numerous cases, however, although on a percentage basis this is not high, where we have been unable to produce a veneer which was in harmony with the teeth on each side.

The greatest criticism of the Ney-Oro porcelain veneer has been its lack of "life," or its lack of translucency, a quality not inherent in the low fusing porcelains employed in bonding techniques. Some have a faint degree of iridescence, but translucency as yet does not seem to have been produced satisfactorily and consistently in the low fusing range. One might add that translucency in facings and restorations, the demand for which has been foisted on the profession by manufacturers of artificial teeth, is something which is grossly over-rated.

The staff at Indiana University School of Dentistry, has done some work with Ceramco and while some definite opinion has developed concerning these materials and this technique, it is too early to make conclusive statements. It was felt, however, that castings made from Ceramco alloy have a less predictable fit. This objection may have been overcome to a great degree by the introduction of a new casting investment (Ceramagold), but it is doubtful that the last word has been said on the subject. To date (August 1960), testing of this investment seems to have been most empirical.

Ceramco alloy castings must be soldered with caution. There is never more than 100° difference between the fusing range of the solder and the fusing range of the casting. An oxygen and gas blowpipe must

be used. It is an extremely critical operation and the solder is very slow to react. A borax glass is used as a flux and is claimed by some technicians to serve as a wetting agent, facilitating the flow of the solder.

The author has seen very few good soldered joints; therefore, when using the Ceramco alloy in construction of a bridge or splinted units, it is advisable to cast the joints. These must be of such size and bulk (and the same idea applies to all of the frame) that practically total rigidity obtains.

When using the Ney-Oro porcelain veneer, it has been our opinion that the unsupported incisal edge is very superior to that which is backed up by a thin layer of metal.⁽⁸⁾ We have felt, also, that bulk is essential to the longevity of this incisal edge.

Ceramco technicians maintain that bulk in their material is a drawback; that it reduces strength and that the thinnest possible layer of porcelain over the incisal edge and back onto the lingual surface produces the strongest veneer. The author is presently in no position to argue this and must accept their conclusions. With either material, the incisal edges should be built over rounded rather than sharp angles.

Unsupported insisal edges of Ney-Oro porcelain have been in mouths for about six years with a minimum of breakage. So far as we know, none have broken. Ceramco veneers have been tested clinically for approximately 18 months, but no report has been made available on the number of fractures.

Ney-Oro opaques are made in several shades, none of which are considered completely desirable when correctly fired, and none of which seem to have maintained true shade at the completion of the cycle needed for building a veneer. For the best shading experience with Ney-Oro porcelain, a very light cream or a white opaque should be used, all shades then being developed and standardized with this background.

Ceramco opaques come in a variety of shades, also, each of which has been assigned to a group of shade formulas developed for this technique. A much greater bulk of opaque is used than with the Ney technique, and application is made to a surface which has been roughened by a stone. This is in contrast to the surface of the Ney casting which should be smooth and burnished with a dull bur.

The research departments at the Jelenko and Aderer Companies have stated:

- (1) that the surface which has been ground with a heatless stone has almost twice the area of the smooth surface, and
- (2) (with which the Dentists' Supply Company concurs) that undercuts are responsible for the adherence of the porcelain to the metal and aid in the microscopic compression which results from the different coefficients of expansion in the alloy, the opaque, and the porcelain.

While there is a difference in the thickness of the opaque layers, there is a great similarity in the bulk of porcelain required to produce a satisfactory shade.

With exception of the Ney porcelain veneers, there has been a considerable amount of checking and cracking within the body of the bonded porcelains. This probably can be attributed to one of several causes.

1. There has not been a balance between the coefficients of expansion of the porcelain and the metal;
2. There has been too rapid heating in the 200 to 400 degree temperature climb of the applied unfused porcelain, and there may have been too rapid cooling following removal from the furnace; or,
3. There could have been deformation of the metal framework.
4. There might have been an attempt to mix unlike porcelains; that is, porcelains with different grain sizes, seeking to bring about increased translucency.

In both clinical and laboratory use, the Ney porcelain and alloy have seemed to

be ideally balanced, because, using ordinary care, checking has been minimal. The same seems to have been true of the NuDent.

High fusing Permadent porcelain checked invariably. Whether the resultant fracturing of the veneers was due to this initial checking or to deformation of the metal is difficult to say, but accident alone would not have been responsible for the abnormal rate of fracturing.

The Ceramicast and Microbond veneers, which the author has seen, upon very close inspection almost always have shown multiple checks. Since these were made in franchised laboratories, it is impossible to determine how carefully they were handled, but it would seem there must be some discrepancies in the balance between the porcelains and the alloys.

Reports indicate that, when first introduced, Ceramco porcelain and alloy were prone to checking. It is claimed, and is no doubt true, that ideal balance has been achieved between the porcelain and the alloy with the new improved Ceramco No. 1 gold, although recognized investigators have not yet done enough clinical work to substantiate this statement.

One further addition to the field of porcelain bonded to metal might be mentioned before discussing the casting and firing techniques.

The Dentists' Supply Company has developed and is preparing to market a new pontic which they call Pontifab. This all-porcelain pontic is bonded to a core of metal quite similar in its characteristics to the metal used in the Ceramicast technique. These pontics are ground to alignment and adaptation to the ridge and are joined together with a relatively low fusing solder. (Any acceptable solder in the 18 or 20 carat range will suffice.)

If well adapted to the case at hand, all of the pontic contacting the ridge and all of the pontic which occludes with the opposing teeth will be porcelain. It is feasible to reglaze these pontics after they have been contoured and aligned, provided the firings do not exceed 1800°F, but,

because of the type of solder used, they cannot be refired after the bridge has been assembled.

Claim is made by The Dentists' Supply Company that the quality and density of the porcelain make it possible, in use with a material which they have developed, for the ground porcelain surfaces to be polished to an adequate tissue-contacting surface. This calls for further investigation and reflection.

Inasmuch as Ceramicast, Microbond, NuDent, and Goldpor techniques are used almost exclusively by commercial franchised laboratories, this discussion of techniques will be confined to the Ney and Ceramco materials.

The Ney alloy fuses at approximately 1930°F while the Ceramco metal (either Jelenko or Aderer) has a fusing temperature of 2150°F and a casting temperature of 2300°F.

The Ney P-9 gold can be cast into a cristobalite and control powder mould. Ceramagold investment, manufactured by the Whimpix Corporation, is suggested for Ceramco. A Jelenko Thermotrol is recommended for casting either alloy.

The form of the framework for the Ney veneers differs slightly from that advised for the Ceramco. A shoulder and a right angle butt joint are required for Ney; a champhered finishing line for Ceramco.

The Ceramco veneers which have been observed had shade discrepancies close to the finishing line of the porcelain unless the veneer was over-contoured. The majority of their demonstration models are oversize, thus lending themselves to use of a bulk of porcelain which would not be possible or feasible in the usual clinical case.

The surfaces of the castings to be veneered differ radically. The Ney metal is not polished, but instead is brought to a semi-shine with a dull bur. The Ceramco metal is ground with a heatless stone, producing a surface which is definitely rough. It is then degassed and the surface to be veneered must not be touched. Slight oxidation occurs. An oxide is produced on

the surface of the Ney alloy during the firing of the opaque, and it is through this oxide that bonding is accomplished, or at least greatly facilitated. While an oxide appears on the surface of the Ceramco metal, it is somewhat meagre and it does not change the colour of the gold materially. The manufacturers claim that some chemical bonding occurs with the formation of this oxide but that the major factor in the retention of the Ceramco veneer is mechanical and that it is helped by the rough surface resulting from grinding with the heatless stone, and that it is further embellished by the compression resulting from the greater contraction of the alloy.

Opagues are applied and condensed in a similar manner, but the layer used with Ceramco is heavier. The initial firing of the Ney opaque should not be above 1440°F. because, with the added firings which must occur in building up the veneer, there is some danger of over-fusing, with the resultant loss of shade or a change of shade. This has been an important contributing factor in the confusion regarding shade results. The Ceramco opaque is fired until it has a shiny appearance, which occurs at approximately 1800°F.

The veneers are added in approximately the same way, although the Ceramco porcelain inexplicably will tolerate greater vibration than will the Ney. With either veneer, the idea is to condense the porcelain and eliminate moisture. Ney porcelain fires at 1650°F, Ceramco at 1800°F.

There should be no direct contact between the Ney porcelain and the alloy because the copper oxide which is produced on the surface of the alloy as it is heated in the furnace will stain the porcelain green. This can be avoided by over-contouring the opaque and by the correct shaping of the casting.⁽⁹⁾ While there will be a minute green line under any circumstances, it need not be visible.

Since the Ceramco alloy contains no copper, porcelain can contact it without

this type of mishap. Because it is claimed that the opaques used in the Ceramco technique augment shading, extremely thin layers of porcelain can be built at the margins of the veneer. Once again this is an assertion which has not been sufficiently substantiated.

Incisal shades of Ney and Ceramco porcelain seem to be radically different. During our investigations at Indiana University School of Dentistry, we used some samples of experimental incisal porcelain, provided by the Ney Company, which were more than amply translucent. Contrary to Ney's advice not to use them in the construction of clinical cases, inasmuch as they were not in balance with the body porcelain, we did use them in quite a number of clinical cases with excellent results both as to resistance to breakage and to increased facility in shading. For some reason unknown to us, these were not marketed nor were more such samples available.

One Ceramco incisal is reputed to be almost completely translucent. It is used as a blending powder rather than a straight incisal.

If a Ney veneer is placed in the furnace more than four times, the technician can usually expect trouble, that is, loss of shade or over-firing. The Ceramco Company claims that its porcelain can be taken to the furnace as many as eight times without deleterious results. But anyone doing this should be a highly experienced ceramist.

The author has seen many Ney veneers in the mouth. He has seen several — possibly as many as forty — Ceramco veneers in the mouth. In shade matching and in natural appearance, there may be a little advantage on the side of Ceramco. He has been told by technicians who have made many more Ceramco veneers than we

have made that shading is more predictable with Ceramco porcelain. This may be true; on the other hand, these opinions may be fostered by differences in standards.

Further work will be done on both the alloys and the porcelains for this type of dental restoration and undoubtedly in the very near future there will be great improvements. Considering the advantages in resistance to wear and fracture, in gold stability, and in its application to adverse situations — all of which features the porcelain veneered gold casting can boast, without question⁽¹⁰⁾ — it is to be hoped that those in a position to do so will expend every effort toward attaining these objectives.

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ABSTRACTS

Comparative Analysis of Saliva in Pregnant and Non-Pregnant Women I. Calcium and pH

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It has been suggested that teeth decay during pregnancy because of changes in the secretions in the mouth. Since pregnancy is accompanied by metabolic changes, caries during this period may well be the result of a change in salivary composition and the ensuing modification of environment.

To determine what changes, if any, occur in the salivary composition during pregnancy, a series of salivary analyses has been undertaken. This is a report of the first series: a determination of the calcium content and pH of saliva of a group of pregnant women as compared with a nonpregnant group.

For the purpose of determining the concentration of salivary calcium to be considered as normal for nonpregnant women, a group of 56 women, ranging in age from 17 to 27 years, was selected from the Temple University School of Oral Hygiene.

The saliva samples of the pregnant women were obtained from the out-patients of the obstetric clinics of 2 hospitals. The ages in the second group ranged from 14 to 38.

The women in both groups were all apparently normal healthy individuals. No physical examinations were given. How-

ever, care was taken to exclude women who had any recent history of illness.

All samples were collected in the morning, at least 1 hour after breakfast, and consisted of unstimulated saliva. For the collection of these samples, the subjects were kept as quiet as possible, usually in a seated position. They were instructed to allow the saliva to flow into the mouth as normally as possible, and to expectorate into large test tubes provided for the collection of the samples. Eight to ten milliliters of samples was collected in each case. The time required for the collection of samples was not recorded and rate of flow was not calculated. The pH of each sample was determined as soon as possible after collection.

There appeared to be no statistical difference between the calcium content of the saliva of nonpregnant women and that of pregnant women, the mean concentration being 5.3 mg. per cent and 5.2 mg. per cent, respectively.

A significant difference however, appeared with respect to the pH values found in the 2 groups. The mean pH value for the saliva of nonpregnant women was 7.0; that for the saliva of pregnant women was 6.5.

Journal of Dental Research
Vol. 38 — No. 5 — Sept.-Oct. 1959

Surface Reproduction of Elastic Impressions

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The ability to reproduce a smooth surface and accurate detail on stone models is one of the most important factors for the impressions used in indirect inlay or crown techniques.

The alginate is the most simple to use, but it has been reported that its surface reproduction is less reliable. The mercaptan rubber-base materials have reportedly produced the best model surfaces. If a fine accurate model surface could be reproduced with an alginate, it would be a great advantage.

In this study, the technical factors which reproduced the smoothest surface and finest detail on the stone model with an alginate impression were investigated; and the results from alginate impressions were compared with those from mercaptan rubber-base impressions.

Five alginate impression materials, two mercaptan rubber-base impression materials, three quick setting stones of hydrocol type, and a hard stone of densite type, made either in the U.S.A. or Japan, were used as listed in Table I.

Alginates 1 through 4 were powder mixed with water, while Alginate 5 was paste mixed with plaster.

A brass plate of 3 by 50 by 30 mm. size was used as an original model. Very fine lines of varying widths were cut by using a steel cutter having a tip the sides of which met at 90 degrees. Spots exactly 8, 10, 20, 30, or 40 μ in width on these lines, were determined by measuring with a Ramsden ocular micrometer and the reproduction of these spots on stone models was compared under a microscope.

As separating media on the lined plate, a very thin coating of petroleum jelly was used for the alginate impressions, and a mix of Magicote (2 parts), a surface tension reducing agent (1 part),

and distilled water (3 parts) was spread very thin for the mercaptan rubber-base impressions.

An impression was made of this plate keeping a 3 mm. thickness of impression material, at a room temperature of 17° to 20°C.

All impression materials were mixed as directed by the manufacturers. Alginate impressions were removed from the original model 7 minutes after application, and poured immediately or after an immediate fixing. Before pouring, the excess fixing solution was removed by one or two gentle shakes of the impression to the extent where the impression surface was still wet and glossy with a thin film of fixing solution on the alginate surface. Leaving excess solution or drying off with an air syringe roughened the die surface.

Mercaptan rubber-base impressions were removed from the original model after 20 minutes and poured immediately. The poured impressions were kept in a humidor at 100 per cent relative humidity. The stone models were removed from the impression after an hour.

A microscope which magnified 40 times and an oblique illumination were used to examine the reproduced lines and surfaces of the stone models.

The conditions required to obtain an excellent model surface with an alginate indirect technic are summarized with the following 6 factors:

1. An excellent alginate impression material (Alginate 1) should be used.
2. It should be spatulated as thoroughly as possible in one minute.
3. The impression should be immediately fixed in a 1 to 2 per cent ZnSO_4 solution for 30 seconds.
4. The excess fixing solution should be removed by one or two gentle shakes of

TABLE 1
Tested Materials

Materials	Brand	Batch No.	Manufacturer	W P Ratio
Alginate 1	Technicol	AM19, AL23	G. C. Co. (Japan)	2.5
Alginate 2	Algix		Fugimori Co. (Japan)	2.5
Alginate 3	Inlay-Jeltrate	36555	Caulk Co. (U.S.A.)	2.5
Alginate 4	D.P.I. Cream	2976	D. P. Co. (U.S.A.)	2.1
Alginate 5	Estergin	370619	Takeuchi Co. (Japan)	
Mercaptan 1	Surflex	AG30	G. C. Co. (Japan)	
Mercaptan 2	Coeflex	C4	Coe Lab. (U.S.A.)	
Hydrocal 1	Plastone	AL31	G. C. Co. (Japan)	0.30
Hydrocal 2	Hydrogips	R335	Shofu Co. (Japan)	0.32
Hydrocal 3	Diolite	651RA3933	Kerr Co. (U.S.A.)	0.30
Densite 1	Surstone	AO16	G. C. Co. (Japan)	0.23

the impression, leaving a wet glossy surface, before pouring the stone.

5. A rather pure hydrocal-type stone should be used instead of a densite-type stone.

6. The model in the impression should be removed at least one hour after pouring.

The two mercaptan rubber-base impression materials tested produced excellent model surfaces, regardless of the brands of the poured stones. However, the surface reproduction of the alginate impression with the best materials and manipulation was as good as that of the mercaptan rubber-base impressions. They failed to reproduce the 8 micron line but reproduced the 10 micron line.

The reproduction of the 8 to 40 micron lines by alginate and mercaptan rubber-base impressions on the stone models was investigated and the following results were found.

1. An alginate impression for indirect inlay and crown work should be fixed

even if the manufacturer directed no fixing.

2. Fixing in a 1 per cent ZnSO_4 solution for 30 seconds produced the most excellent surface for any brand of alginate impressions tested.

3. Alginate 1 generally produced a better model surface than all other alginates tested when poured with most stones, while only Hydrocal 3 produced a little better surface with Alginate 3 than with Alginate 1.

4. In alginate impressions, a rather pure hydrocal-type stone is preferred to those containing more substances which inhibit setting expansion a densite-type stone is contraindicated with alginate impressions.

5. The mercaptan rubber-base impressions produced good model surfaces from either hydrocal or densite stones.

6. Both alginate and mercaptan rubber-base impressions, used in the most ideal conditions described above, could reproduce the 10 micron line but both failed to reproduce the 8 micron line.

The Effect of Topically Applied Potassium Fluorostannite on the Dental Caries Experience in Children

CHARLES W. GISH, JOSEPH C. MUHLER, and CHARLES L. HOWELL

In this paper, the clinical data will be presented comparing the effectiveness of an initial series of four topical applications of a 4 per cent solution of potassium fluorostannite with that of a similar number of applications of distilled water at the end of a 3-year study period.

Essentially an initial treatment of 442 children, 6 through 16 years of age, with 4 applications of 4 per cent aqueous solution of potassium fluorostannite was compared with 452 children with similar dental caries history and age range treated with 4 applications of distilled water.

At the end of 2 and 3 years, respectively, there were 683 (364 control, 319 experimental) and 636 (342 control, 294 experimental) of the original 894 children available for re-examination. The balance of

both the 2- and 3-year groups at the initial examination was good. There were initially an average of 5.5 and 5.6 DMFT, respectively, for the 2-year control and experimental groups; and 5.3. and 5.2. DMFT, respectively, for the 3-year control and experimental groups. The number of noncarious teeth at the initial examination of the 2-year group was 12.1 for the control and 11.5 for the potassium fluorostannite group. The number of noncarious teeth at the initial examination of the 3-year group was 12.2 for the control and 11.9 for the potassium fluorostannite group.

The results of the 4 applications of the potassium fluorostannite on reducing dental caries in children, 1 and 2 years following the initial treatment, are shown

TABLE 1

A comparison of Caries Increments After One, Two, and Three Years in Two Groups of Children, One of Which Received Four Applications of a 4 per cent Solution of Potassium Fluorostannite and the Other Group Four Applications of Distilled Water.

		Control	Experimental	Per Cent Reduction
1 Year	No. of Subjects	411	390	
	DMFT Increment	1.21	0.56	73.7 (p = 0.000015)
	DMFS Increment	2.42	1.47	39.2 (p = 0.00014)
2 Years	No. of Subjects	364	319	
	DMFT Increment	1.83	0.96	47.5 (p = 0.00001)
	DMFS Increment	4.42	2.72	38.5 (p = 0.00006)
3 Years	No. of Subjects	342	294	
	DMFT Increment	2.20	1.33	40 (p = 0.00001)
	DMFS Increment	4.58	2.74	41 (p = 0.00001)

in Table I and compared with the data obtained at the end of 3 years. The results 3 years following the initial treatment demonstrate a 40 per cent reduction in dental caries as evaluated by the DMFT index, and a 41 per cent reduction when the DMFS index is used. Both reductions are highly significant as indicated by their low probabilities.

These data, as well as others, have suggested the superiority of the "tin" fluorides over sodium fluorides.

Since its duration of effectiveness seems to be superior to stannous chlorofluoride, additional study using this compound and related analogs with the

"Single Application Technique" seems indicated.

SUMMARY

Three years following the initial topical treatment of children with a 4 per cent potassium fluorostannite solution there were 40 and 41 per cent less dental caries as evaluated by the DMFT and DMFS indices, respectively, when compared to a similar control group which received distilled water. These data indicate that the effectiveness is still highly significant at the end of 3 years.

The Journal of Dental Research
Vol. 38 — No. 5 — Sept.-Oct. 1959

Growth and Transformation of the Temporomandibular Joint in an Orthopaedically Treated Case of Pierre Robin's Syndrome.

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RUDOLF STELLMACH, M.D., D.D.S.,
Dusseldorf, Germany, and Geneva, Switzerland.

An infant affected with Pierre Robin's syndrome of micrognathia was treated orthopaedically at the age of 2 months. After five months of therapy, normal jaw relations were established. The child died of other causes at the age of 9 months. The histologic analysis of the temporomandibular joint revealed the following:

1. The temporal structures of the joint gave evidence of an orthopaedically induced transformation in the sense of a forward displacement of the fossa by coordinated processes of bone apposition and bone resorption.

2. Absence of traumatic injuries of the capsular structures was noted.

3. The condylar head showed growth activity in the vertical and horizontal directions exceeding the normal rate.

4. These histologic peculiarities are identical with those described by Breitner,

Häupl, and Hoffer in similarly treated experimental monkeys.

These observations lead to the following conclusions:

1. The scope of orthodontic treatment is not necessarily limited to transformations of the periodontal structures of the jaws. Even parts of the temporal bone may be influenced by orthodontic appliance therapy.

2. X-ray analysis does not reveal the entire picture of orthodontically induced growth changes. Animal experimentation remains an important aid for the bioassay of orthodontic therapy.

3. Häupl's functional jaw orthopaedics takes best advantage of the morphogenetic property of functional stimuli although any other appliance system may produce the same effect.

American Journal of Orthodontics
Vol. 45—No. 12—December 1959

The Role of Hypnosis and Suggestion in Dentistry

HOWARD W. MARCUS, M.D., D.M.D., NEW YORK

There are today competent professional men in every branch of medicine who are able to administer hypnosis if and where indicated in their respective fields, and because of the broader recognition of hypnosis in the profession their number is increasing at a steady rate.

All dentists realize that modern dentistry is no longer confined to the mechanical aspects of the profession, that broader medical as well as surgical and psychological considerations form an inseparable and important part of its daily practice.

It must be admitted that dentistry, in spite of all technological advances regarding equipment and techniques, premedication and administration of anaesthetics, still appears to represent a threat to the majority of the adult population, and the mere sight of a dental chair still provokes anxiety.

Opportunities for the use of hypnosis exist in every practice, regardless of the specialty involved.

Hypnosis is used to overcome fear and tension, to counteract unpleasant experiences or negative influences with regard to the dental situation; it is used to raise the threshold of pain, and to relax patients who are undergoing treatment.

Hypnosis is used for premedication in operative and surgical procedures, either in addition to or instead of chemical premedication, depending on need and circumstances.

It is used to allow for a reduction of chemical anaesthetic agents such as procaine, nitrous oxide or others and to reduce the unpleasant after-effects of chemical anaesthesia.

It is used to replace chemical anaesthesia where the administration of such anaesthesia is contraindicated for medical reasons, such as allergies, heart disease and others.

Hypnosis is used to overcome handicaps to the performance of proper dental service and to the normal dentist-patient rela-

tionship, such as gagging while roentgenograms are being taken; gagging while impressions are taken; gagging while dentures or other appliances are worn; gagging during the routine examination of the oral cavity for diagnostic purposes; gagging during routine dental treatment or during the routine use of the toothbrush at home.

It is used to overcome lack of proper co-operation during such procedures as bite registration, or in the wearing of appliances, such as bite planes or other orthodontic or prosthetic appliances (provided, of course, that this lack of co-operation is not due to faulty construction of the appliance).

Hypnosis can be used further in the form of posthypnotic suggestion, for the control of postoperative sequelae such as pain and bleeding. Reconditioning patients through posthypnotic suggestions to accept dentistry in the future without prejudice is one of the important and most rewarding applications of hypnosis in dentistry.

Finally, hypnosis can be used for the correction of habits which interfere directly or indirectly with dental treatment, and with the health, function or aesthetics of the dental apparatus and the soft tissues of the oral cavity. These habits include thumb, finger, cheek or tongue sucking; pencil, nail, lip or tongue biting; bruxism, excessive smoking and many others.

Some of the habits dealt with in dentistry appear not to be deeply imbedded, and over the years they may have acquired the character of a conditioned reflex. For example, the sucking of the thumb may have had a great psychodynamic significance and meaning to the child when he was an infant. It may have been a replacement outlet for his want of his mother's breast. But if the child has reached the age of 8 or 9 or 10 or 14, the original meaning of this habit often

has been lost over the years; it has changed direction and purpose, and by now may have become a conditioned reflex.

Cases have been reported where a direct approach has served not only to remove the symptom for which it was intended, but at the same time, other coexisting undesirable symptoms and personality disorders. Furthermore, some men have pointed out that only after the elimination of a symptom by the direct approach have they been able to reach the underlying personality disorder through psychotherapy. Thus, the elimination of the habit has served to cut through the patient's defense system and to open the avenue for broader therapy.

Again, the dentist ought to have the necessary background to enable him to be selective, and to use good judgment and proper procedure, before dealing with this complex problem. There is no reason why the dentist should not enlarge his horizon to enable him to deal with psychological problems that occur in his field in the same manner as he has learned to deal with medicosurgical problems that occur in today's practice of dentistry.

Hypnosis is not to be used if the dentist lacks training in, and familiarity with, the subject matter as a whole. Here the same limitations apply as in any other area of professional activity. It is at times as easy to hypnotize a patient as it is to put a patient to sleep with a bottle of ether—yet in order to use anaesthesia or hypnosis in the dental office, the dentist should have acquired a thorough knowledge of, and background in, all aspects which enter into the administration of either.

Hypnosis is not to be used if the dentist has emotional problems concerning his attitude toward the patient or toward hypnosis or both. The dentist using hypnosis ought to have enough insight into his own emotions to enable him to desist from using hypnosis under circumstances which would not allow him to use it in an objective and professional manner. The same limitations apply here in the emo-

tional area as would apply to the dentist who might be physically handicapped to perform certain mechanical functions.

Hypnosis is to be discouraged if the patient has emotional problems concerning his attitude toward the dentist or hypnosis, or both. The dentist using hypnosis ought to be able to recognize emotional problems in his patients which call for a "hands off" attitude on his part. Here again the same applies as in any other area of his activities. If the problem goes beyond the scope of the dentist's training and experience, referral to a competent specialist is the required procedure.

The dentist is naturally most interested in having the patient sufficiently relaxed in the chair to enable work to be done without interference. At the same time, he likes to see the patient in a co-operative mood and free of unfavourable physical and mental reactions. All this usually can be achieved without using the deeper stages of hypnosis. As a rule, therefore, induction is carried no further than is necessary to accomplish the main goal, which is good dentistry and not deep hypnosis. The properly managed patient generally enjoys the calming, relaxing effect of hypnosis and looks forward to its future application. However, once the existing obstacle to the administration of good dental services has been removed by the use of hypnosis, it often becomes unnecessary to employ hypnosis in future sessions.

Hypnosis can be a valuable asset to the modern and properly trained dentist. It should never be used without definite indication for its use. It is an adjunct to, and not a replacement for, other valuable dental procedures. It is not a panacea. Once the obstacle to the use of standard dental procedures is overcome, there is no further need for the use of hypnosis in treatment of the particular patient. The more familiar the dentist is with the techniques and principles underlying the use of hypnosis, the less need there appears to be for rigid hypnotic procedures.

EDITORIALS

C.D.A. Annual Meeting, 1960

Ottawa, the federal capital, was the scene of the 1960 annual meeting of the Canadian Dental Association. It was an event marked by important decisions with far-reaching consequences; an event which may be of historic significance for dentistry in Canada.

During the week which preceded the scientific sessions, the Board of Governors of the Association convened in the federal parliament buildings. Reports presented by Councils and Committees clearly delineated the issues which agitate the Canadian public and which demand constructive action on the part of the dental profession. Foremost among these are the rapidly growing public demand for adequate dental care, present inability to satisfy this demand, and the urgent need to devise broader distribution of dental care at a cost which is justifiable to the public and the profession alike.

Under the stimulus of social and economic pressures, governments in various provinces are finding themselves obliged to take a direct interest in the provision of dental care. The extent to which this trend will persevere may well depend upon the ability and willingness of the dental profession to assume responsibilities beyond those of a purely clinical nature. For the moment, at least, it appears that these

governments would prefer to have the profession provide leadership and guidance in the elaboration of comprehensive dental health services available to all who require them. Failing such initiative from the profession, there is no doubt that provincial legislatures possess the authority to enact the necessary measures in consequence to public pressure. The danger of such an outcome stems from decisions reached on considerations which are primarily economic and political rather than dental. In the light of these facts, the Association at Ottawa adopted a policy statement on the "Projection of Dental Services in Canada". This statement lists the measures which the Association recommends and supports for the promotion of comprehensive dental care for all Canadians. They include widespread application of proven preventive measures, increased training facilities for dentists and dental auxiliaries, active programs for the recruitment of dental students and dental auxiliary trainees, considerable increase in the number of dental auxiliaries, an expanded field of service for dental auxiliaries, and the introduction of prepaid dental care plans operated by the profession. The essential feature of this policy statement lies in the guidance provided to provincial components desiring to implement the

various proposals. The way is now opened to seek amendment of regulations governing the scope and employment of dental auxiliaries. Thereupon, pilot training programs may be initiated to produce dental auxiliaries who may render a broader scope of service than is presently feasible. Together with the introduction of pilot

professionally-operated prepayment plans, these measures should do much to provide the experience on which the profession may base its future actions.

The opportunities for service to the nation are unlimited. Canada now looks to its dentists for wise leadership in the sixties.

Farewell

This issue of the *Journal* marks the final occasion when the name of Dr. Edward R. Bilkey will be directly associated with its production. As such, it is a fitting occasion to record our sincere gratitude for the talented contributions to dental science and literature of an esteemed colleague.

Edward Bilkey has served as editor since January 1959. He came to the *Journal* with an excellent background in clinical dentistry as well as a gift for the written word which is accorded to few. In the period following graduation from the University of Toronto in 1947, he served as an Associate in the Paedodontic Department. At the same time he exhibited a lively interest in promoting improved dental care for children through the efforts of the Canadian Society of Dentistry for Children of which he is a past president. His contribution to the work of the Dental Public Health Committee of the Ontario Dental Association was motivated by a similar high purpose. In recognition of one of the social obligations of the dental profession, Dr. Bilkey organized and presently acts as chairman of the Mediations Committee of the Academy of Den-

tistry of Toronto. This action effectively decentralizes part of the burden of resolving grievances between practitioners and their patients, a task heretofore exclusively borne by the Secretary-Registrar of the Royal College of Dental Surgeons of Ontario.

Despite these diverse activities as well as the demands of an extremely busy private practice, Dr. Bilkey accepted the added responsibility of editing and producing this *Journal*. His unquestioned ability and good judgement are reflected in close on two volumes of the *Journal* that bear his name on the masthead. All this was done with an unassuming modesty and sense of humour which are familiar characteristics to his friends and associates.

The attractions of clinical dentistry together with the overwhelming demands of a practice devoted to children constitute the reasons for Dr. Bilkey's decision to relinquish his editorial duties. It is the hope of his friends and colleagues that he will find ample satisfaction in devoting his efforts more directly to the advancement of paedodontic practice and the care of

children. At the same time it will be a comfort to know that his friendly counsel and advice will be readily available to his successor.

To Dr. Bilkey the Canadian Dental Association expresses sincere gratitude for his services to the Journal. We wish him well in his future endeavours.

Adrift in Dangerous Waters

A recent hearing before the Select Committee on Drugs of the Ontario Provincial Legislature illustrates the vulnerability of the dental profession to adverse public criticism and bad press publicity.

Early in June of this year, the Ontario Dental Association received a telephone and a written communication from H. L. Rowntree, Q.C., Chairman of the Select Committee, suggesting that the Association might wish to make a statement outlining the position of its membership with respect to the use and prescription of drugs and the related cost factor. The Association replied that it had insufficient information available on the extent to which drugs are prescribed by dentists to make a statement. Nothing further was heard until the end of September when the Ontario Dental Association received a telephone request to have a representative appear at short notice before the Select Committee. For various reasons this request could not be fulfilled. On October third, the secretary of the Select Committee again telephoned the Ontario Dental Association and instructed the Association secretary and two directors to appear at 2.30 p.m. that same afternoon. Practice commitments prevented elected Association officials from complying, but the secretary, a lay person, attended as requested. At this hearing the dental and pharma-

ceutical professions were roundly rebuked by the Select Committee for non-cooperation and failure to provide the requested information. The following day, October fourth, the secretary and the president-elect of the Ontario Dental Association appeared before the Committee and were questioned in regard to the volume of drug prescription in dental practice, the cost of drugs as a factor in the determination of fees, and availability of the fee schedule of the Ontario Dental Association. Wide-spread press publicity arising from these hearings reported Committee criticism of the dental profession's alleged uncooperative attitude. One publication, furthermore, advised its readers that dental fees were about to rise because the Committee had been informed that the Ontario Dental Association fee schedule was under revision. Repercussions in the dental profession were swift.

There are several lessons to be drawn from these unfortunate events. In the first place, it would be well to treat all requests in whatever form for information from government commissions or committees as mandatory. If the required information is not immediately available, every effort should be made to assemble the data as quickly as possible. Cooperation on the part of the profession is the most effective answer to any suspicion

that the profession may be withholding information. Secondly, there is a growing tendency for governments to establish investigating commissions at federal and provincial levels. A government commission enquiring into any aspect of health holds special interest for the dental profession. It is vital, therefore, that not only the Canadian Dental Association but also the provincial dental associations be alert to such pertinent commissions as may be established within their jurisdiction and that they be prepared to cooperate as and when required.

This, however, points up a fundamental weakness of most of our provincial and local dental associations. Whereas the dental licensing boards are served by full-time or part-time appointed officials, most of our dental associations are guided by elected officials—practising dentists who generously contribute their time and their talents for the benefit of their profession. This arrangement fills the purpose admirably as long as these associations confine their efforts to the planning of scientific meetings and to professional fellowship. But the practice of dentistry must be viewed against the background of a chang-

ing society. The profession must be prepared to meet new demands constructively. To do this effectively, permanently appointed executive secretaries with dental training and administrative ability are required to give continuity and purpose to the actions of provincial and large metropolitan dental associations. It is plainly unreasonable to expect lay secretaries to represent the profession vis-à-vis the public. Nor is it fair to our elected officials to expect them to abandon a busy practice every time a dental association is requested to have representatives attend a meeting. The proposal in favour of dentists as permanent executive secretaries implies an obligation to re-examine the financial position of provincial and metropolitan dental associations. If membership fees must be increased, or if the basis of membership must be reorganized, we feel sure that dentists will rally to the cause once they understand the need.

The serious issues and far-reaching consequences facing the dental profession dictate the most efficient administrative direction for dental organizations in this challenging age.

"There is still an immense amount to be learned about health, but if what is at present known to a few were part of the general knowledge, the average expectation of life could probably be increased by about ten years."

—J. B. S. Haldane

CORRESPONDENCE

MISUSE OF THE TITLE "DOCTOR"

To the Editor:

It is bad enough to read of such discourtesy to the dental profession in newspapers, but it is more grossly exaggerated when it is printed in a dental journal. I refer to the July 1960 issue of the Journal, page 435—"Doctors and Dentists."

My dear Editor, dentists are doctors specializing in dentistry. A more exacting distinction has always been and should be "Physicians and Dentists." I do hope you will make it a point to make this separation in this manner in the future.

I always enjoy reading the Journal of the Canadian Dental Association to which I have been a subscriber for many years.

*I. F. Miller, D.D.S.,
30 Central Park South,
New York 19, N.Y., U.S.A.*

EDITOR'S NOTE:

Dr. Miller's objection to a purely medical connotation in the use of the title "doctor" is sustained by North American practice. Dentists and surgeons in Great Britain and other parts of the British Commonwealth, however, do not use this title. In this particular instance, Dr. Miller's objection referred to the title of a Royal Commission established by Her Majesty's Government in the United Kingdom and it would have been inappropriate for the Journal quotation to depart from the original appellation.

BOOK REVIEWS

Restorative Dental Materials—Prepared by: Floyd A. Peyton, with Associates. Published by: The C. V. Mosby Co. Pages: 524, 161 illustrations. Price \$10.50.

Although this book is designed primarily as an elementary textbook for beginning dental students, it presents effectively the principles underlying restorative materials.

The general practitioner will find substantial help in using this textbook for reference purposes. It fully covers old and new materials in such a way that they will be of interest to both the student and graduate.

The book is well written with excellent illustrations and is a very considerable asset to our dental literature.

C. G. Duke

In The Dentist's Office—Prepared by: G. Archanna Morrison. Published by: J. B. Lippincott Co. Pages: 280. Price: \$7.50.

The second edition of "In The Dentist's Office" presents a very interesting and up-to-date account of dental office routine. It covers every phase of dentistry — is well illustrated and contains a dictionary of dental terms which is most helpful. It clearly outlines the duties and responsibilities of dental office personnel. The chapters relating to office management contain many new ideas and are of particular interest. Many of the procedures outlined in the "Presentation of General Treatment Plan" chapter are probably more common in the United States of America than they are in Canada at the

present time, however, many valuable ideas may be gained from them. The chapter entitled "A Tooth Is A Tooth" covers dental anatomy and charting. It is very clearly written and illustrated and would be of great value especially to those new in the dental office.

I would recommend this book as a worthwhile addition to the library of any dentist or auxiliary dental office personnel.

Barbara Babbitt

The Evolution of Dental Education—Prepared by: John E. Gurley, Historian, American College of Dentists. Published by: The Ovid Bell Press, Inc., Fulton, Mo. Pages: 276. Limited number of volumes. Price: \$8.50.

This book by Dr. John E. Gurley makes a valuable contribution to dental history. It is mostly a collection of quotations, rather than a smooth flowing story of the development of dental education.

The study started with the idea of writing the chronological history of the "Dental Educational Council of America," but the story had not advanced far when he realized that attention must be paid to the early days of the profession. He deals rather briefly with the earlier "National Association of Dental Examiners", the "National Association of Dental Faculties" and the "Dental Faculties Association of American Universities." Then much more complete reference is made to the work of the "Dental Educational Council" and finally to the "Reorganized Dental Educational Council".

While he makes reference to the close relationship in dental education between Canada and the United States, Canadian readers will be disappointed that extended reference is made only to Dr. A. C. Cogswell of Halifax, who well merits attention in a work of this nature as one of the outstanding early Canadian dentists (1834-1904), who died before the first Canadian dental school in Eastern Canada was started in 1908. He was the father of Dr. A. W. Cogswell, one of the small group interested in starting this Mari-

time Dental College. At the same time, it is unfortunate that no reference is made to the valued work in dental education carried on by such men as Dean J. B. Willmott and Dean A. E. Webster, both of whom contributed many valuable articles to the dental literature of the day. It seems to be an oversight that no more than passing reference is made to the "preceptor" method of training and no consideration is given to the form developed in Ontario, where it would appear to have had its most complete trial in the history of dental education on this continent in the 19th century. The serious shortcomings of this system were manifested.

The value of the book is increased by the inclusion of an excellent bibliography and a concise index.

J. Stanley Bagnall

Oral Pathology—Kurt H. Thoma, D.M.D., Dr. Med. dent. h.c. (Zürich); F.D.S.R.C.S. (Eng.) Hon. F.D.S.R.C.S. (Edin.); F.A.C.D. and Henry N. Goldman, D.M.D., F.A.C.D. Fifth Edition, St. Louis, 1960, The C. V. Mosby Co., 1523 pages, 1704 illustrations. Price \$27.50.

This is the fifth edition of this book since 1941, when it was first published. The senior author has been joined by Dr. Goldman as co-author, who contributed the section on periodontal diseases in the previous edition. The book is divided into eight sections which cover such subjects as anomalies and diseases of the teeth, odontitis, anomalies and diseases of the head and jaws, diseases of the temporomandibular articulation, the nerves and muscles of the face, the mouth, the salivary glands, and tumours of the jaws. One new chapter has been added on the effect of the loss of teeth and the wearing of artificial dentures on the oral mucosa.

The book is well illustrated, and over a hundred new illustrations have been added since the last edition.

The book has become a classic and is recommended for the specialist, general practitioner and student alike.

William B. Donohue

THE ASSOCIATION

Highlights from the C.D.A. Annual Meeting

The Association adopted a policy statement on "Projection of Dental Services in Canada." This statement sets forth the following principles and actions to which the Canadian Dental Association subscribes.

1. Provision of up-to-date statistics on dental service needs and demands in Canada.
2. Active research programs particularly in the preventive aspects of dentistry.
3. Widespread application of proven preventive measures.
4. Additional training facilities for dentists and dental auxiliaries.
5. Active recruitment programs for dentists and dental auxiliaries.
6. Increase the number of dental auxiliaries and expand the services they are legally permitted to render.
7. Arrange for the establishment of prepaid dental service programs operated by the profession and available to low income groups and welfare recipients.

The Association—Authorized the Committee on Headquarters Property to undertake a study of requirements for future use of the Headquarters building.

- Discontinued the Public Relations Committee. The functions of this committee are transferred to the Bureau of Public Information.
- Encouraged the Committee on Specialists and Specialization to pursue its study of the feasibility of establishing a national dental specialist certification board for Canada.

- Revised its principles for prepayment plans.
- Considered the model for a prepayment plan.
- Considered the accounting services offered by C.D.S.P.I.
- Defined the scope of services to be rendered by dental auxiliaries.
- Considered a report on the extent of dental research in Canada in 1959.
- Encouraged intensification of recruitment efforts for dental students and dental auxiliary trainees.
- Considered legislation affecting dental practice enacted in various provinces during 1959.
- Endorsed progress made towards the establishment of a Canadian Dental Health Index.
- Revised the By-Laws of the Association. The following Bureaus, Councils and Committees were confirmed or established (former designation shown in parenthesis):

Executive Council

Council on Constitution and By-Laws

Council on Education

Council on Public Health (Dental Public Health Committee)

Council on Ethics

Council on Legislation

Council on Journalism (Publications Committee)

Council on Research

Committee on Conventions

Committee on Necrology

Committee on Auxiliary Services

Committee on Dental Services (Health Insurance Studies Committee)

Committee on Hospital Services (Hospital Dental Services Committee)

Committee on Headquarters Property

Committee on Nomenclature

Committee on Specialists and Specialization

Committee on War Memorial Awards

Committee on Nominations

Bureau of Public Information

Bureau of Economic Research.

Ottawa. The Eastern Ontario Dental Association was the host dental organization.

One of the highlights of the convention, as reported internationally by press, radio and television, was the luncheon address by Prime Minister Diefenbaker. Busy as he was with international affairs, Mr. Diefenbaker returned from his historic visit to the United Nations in New York specifically to keep his speaking engagement with the Canadian Dental Association.

An outstanding program of speakers, demonstrations, commercial exhibits and entertainment was arranged by the convention committee. A very busy four-day meeting of the Board of Governors preceded the convention.

J. P. Whyte Elected President

Dr. James P. Whyte of Swift Current, Sask., was installed as president of the C.D.A. at the annual luncheon meeting in Ottawa, September 26. Dr. Whyte, who was installed by Harvey W. Reid of Toronto, a CDA past president, succeeds William G. McIntosh of Toronto, who has held office since the Halifax meeting in June, 1959.

National Convention Big Success

About six hundred dentists, most accompanied by their wives, helped to make the 1960 C.D.A. convention a real success both scientifically and socially. Scene of the convention was the Chateau Laurier hotel in

LIBRARY

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COUNCIL ON PUBLIC HEALTH

Editor's Note:

The first Canadian Conference on Children was held at Ste. Adèle, Quebec, from October 2-6, 1960. Purpose of the conference was to identify and assess some present-day needs of Canadian children with a view to stimulating appropriate action. The Canadian Dental Association was represented by Dr. H. K. Brown, Dental Consultant, Department of National Health and Welfare, who submitted the following report on behalf of the C.D.A. Council on Public Health. The report provides dental information to members of non-dental disciplines who, together with dentists, are concerned with the special needs of children.

Dental Conditions Adversely Affecting the Health of Children

The data which provided the basis for this report were obtained from dental authorities in all ten provinces. Because a number of different survey methods and tabulating procedures were used, and because there was considerable variation in the quantities of data received, it was not considered possible, at this time, to make useful comparisons of dental health status as among provinces or other geographical areas.

Dental Disease

The most significant differences shown by the data were those of tooth decay prevalence as between groups of children born and residing since birth in communities where the water supply contained one part per million or more of fluoride, either from a natural deposit or added mechanically (fluoridation), and groups born and residing in places where the water supply contained much less or negligible fluoride. The latter groups exhibited about three times as much tooth decay, regardless of geographic location in Canada. No significant differences in the prevalence of malocclusion or of periodontal disease between such groups were observed.

The following pictograph shows, on the left of the page, the fraction of the pre-school population (2 to 4 years of age) affected by tooth decay, malocclusion and periodontal disease. On the right is shown the fraction of the elementary school population (5 to 15 years of age) affected by these conditions. The pre-school group are all in the primary (or foundation) dentition stage. The children from six years to eleven years are in the stage of change from the primary or foundation dentition, to the permanent one. The picture given here for that age span relates to both dentitions. It cannot be stated with too great emphasis that the health of the primary dentition bears just as important a relationship to the total health of the child as does that of the permanent dentition.

Dental Treatment Level

In accord with reasonable expectations, more dental care of children was reported from provinces which have the highest number of dentists per unit of population (Ontario and B. C.), and more particularly in urban areas. However, the overwhelming prevalence of tooth decay among children makes its conquest by treatment alone both physically and financially impossible. In most areas best supplied with dentists, less than one fifth of the total need for treatment of tooth decay alone can be met, leaving almost no dentist time for the treatment of malocclusion and periodontal disease. In areas less well supplied with dentists, while exact figures are not available, it is probable that less than ten percent of the total need for the treatment of caries alone is being met.

The burden of treating even the greatly reduced amount of caries in a fluoridated place is still a costly one, which cannot be met in most such places by the dental personnel presently available.

The data in the above statistical pictograph which shows treatment status were obtained from some of the areas best supplied with dentists. It can be safely assumed that the picture is much worse elsewhere.

Discussion

The inter-related complex of tooth decay, malocclusion and periodontal disease develops slowly, is seldom by itself fatal, but it brings acute pain, infection, disfigurement and partial disability, physical, emotional and social, to more children than does any other affliction.

The major part of the answer to this problem lies not so much in the training of additional dental personnel, as it does in the broad use by individuals and by communities, of presently known preventive measures, and in further intensive dental research to improve and add to the number of such measures.

DENTAL HEALTH OF CANADIAN CHILDREN

Pre-school age
(2-4 years)



5 out of 10 by fourth year



almost 3 out of 10



almost 1 out of 10



2 out of 10



3 out of 10



almost 1 out of 10

have experienced
tooth decay



almost 10 out of 10 by 15 years



over 8 out of 10



almost 4 out of 10



5 out of 10



1 out of 10 severely
7 out of 10 to some extent
(increases risk of tooth
decay and periodontal disease)



2 out of 10

have open cavities
needing treatment

have prematurely
lost a tooth

have poor oral
hygiene

have malocclusion

have gingivitis
(early periodontal
disease)

It may be stated, as something of a dental axiom, that the need by a community for dentists (dental treatment) is a measure of its failure to use available preventive measures.

There are, at the present time, simple, practicable preventive measures, the broad use of which could reduce tooth decay to a level where, with an increase in the number of dental personnel, which might be obtained by an active student recruitment program coupled with an adequate increase in training facilities, the remainder could be treated and the dentists left with sufficient time to prevent and treat malocclusion and periodontal disease.

Dental Resources

There are six dental schools in Canada, one at each of the following universities:

- Dalhousie (Halifax)
 - University of Montreal (Montreal)
 - McGill University (Montreal)
 - University of Toronto (trains dentists and dental hygienists), (Toronto)
 - University of Manitoba (Winnipeg)
 - University of Alberta (Edmonton)
- These schools graduated a combined total of 193 dentists and 8 dental hygienists in 1959.

The dentist-population ratio for each of the ten provinces and for Canada, as of January 1st, 1960, was:

B. C.	1/2,404	(It may be of interest to note that the dentist population ratio in the U. S. is: 1/1,694 (they regard this as inadequate).
Alberta	1/3,017	
Sask.	1/4,698	
Manitoba	1/3,195	
Ontario	1/2,403	
Quebec	1/3,612	The State of New York has the highest ratio at: 1/1,323. The State of South Carolina has the lowest ratio at: 1/5,499.)
N. B.	1/5,175	
Nova Scotia	1/3,710	
P. E. I.	1/2,914	
Nfld.	1/10,441	
For Canada as a whole	1/3,018	

The variations in dentist population ratio in Canada are due to a number of factors, among which are:

- (1) Demand for dental care. (In all areas it is much below actual need).
- (2) Variations in intensity and effectiveness of health education programs.
- (3) Geography, and geographic distribution of population. Dentists tend to practice

in urban areas and a considerable proportion of people manifest a tendency to have dental treatment performed in such areas. This has been facilitated in recent years by improved transportation, and it has had the effect of discouraging dental practice in small towns and villages.

Dental research and teaching personnel are in short supply in dental schools. There is urgent need for financial help from foundations, individuals and governments to assist young dentists to undertake the extensive postgraduate basic science training required to prepare them for service in these areas, and to provide research facilities and equipment and to support research projects.

Recommendations

Whereas it is known that by the age of fifteen years the health of almost 100 percent of Canadian children has been adversely affected by tooth decay and its related pain, infection, disfigurement and disability; and that about one child in ten has a disfiguring and partially disabling irregularity of the teeth with associated bone deformity; and that in about one child in four the signs of incipient periodontal disease with its threat of systemic infection are already present; and whereas it is also known that by the exercise of presently known preventive measures the occurrence of these conditions could be reduced to a level where the balance could be more easily controlled by treatment through a probably attainable increase in the number of dentists and auxiliary personnel; the Canadian Dental Association recommends: (1) that a concerted effort be made to improve and expand dental health education of the public with a view to obtaining the wide use, by individuals, of those preventive measures which only they can exercise and control (good food habits and oral cleanliness), and the adoption by communities of those measures which can be carried out only by community action (fluoridation and education programs); (2) that, in order to increase the scope and effectiveness of dental preventive measures, action be taken to obtain research facilities and adequate training for additional dental research workers; (3) that, in order to meet the dental needs of the expanding population, encouragement and assistance be given to attract recruits to undertake dental and dental auxiliary training with particular attention to the care of children; (4) that an effort be made to obtain adequate facilities for the training of dentists and dental auxiliaries with a view particularly to controlling dental disease and disorders in children.

COMMITTEE ON DENTAL SERVICES

Canadian Dental Service Plans Inc.

Plan de Services Dentaires Canadien Inc.

The following statement concerning the operation of Canadian Dental Service Plans Incorporated (C.D.S.P.I.) is published for the information of members of the dental profession.

C.D.S.P.I. is a federally chartered non-profit company established by the dental profession to provide accounting and other services to individual dentists and to legally constituted dental service corporations which may be established for the purpose of providing prepaid dental care plans to group purchasers.

The directors of C.D.S.P.I., who actually constitute the company, are appointed by the licensing board within a province which exercises legal jurisdiction over the practice of dentistry. Any provincial licensing board may request membership and may appoint directors, subject to the approval of the existing board of directors. This stipulation is required inasmuch as new provinces desiring membership in the plan would be expected to assume normal obligations in respect to costs. Appointment of directors to C.D.S.P.I. is not a necessity, however, because the directors of the company do not exercise any control over the operation of dental care plans within any province. Their control is confined to the mechanical operation of the accounting service and C.D.S.P.I. office personnel.

C.D.S.P.I. is authorized to furnish accounting facilities for the operation of dental care plans within any province upon request from

the licensing board of that province. Such requests are considered by the directors of C.D.S.P.I. who may then agree to service such plan in the manner determined by the provincial licensing board or by the provincial dental service corporation established by the licensing board. If, in the opinion of the directors of C.D.S.P.I., it is not economically feasible to provide requested services, the company may decline the request. In any event, the provincial licensing board or dental service corporation retains full operational control of dental care plans.

C.D.S.P.I. is particularly well equipped to service pre-payment or post-payment or government dental welfare plans authorized by provincial licensing boards or dental service corporations. A provincial dental service corporation would find it more advantageous to employ C.D.S.P.I. accounting services in the administration of a pre-payment plan than to establish a separate organization for this purpose. Services available from C.D.S.P.I. include the processing of accounts received from the provincial dental service corporation, maintenance of records of members and payment of premiums, collection of premiums, payment of member dentists, determination of eligibility of members, checking accounts for errors, and maintenance of statistics to enable the dental service corporation to evaluate its program. The dental service corporation would be responsible for the appointment of its own officers, determination of dental service benefits, fee schedule, establishment of premiums, negotiation of contracts with parties desiring to purchase dental care, review of accounts referred from C.D.S.P.I. and decisions on policy matters.

THE CORPS

Militia Training at The R.C.D.C. School

Twenty-three officers from various R.C.D.C. Militia Units in Canada attended the militia officers training programme at the R.C.D.C. School, Camp Borden, Ont., from September 19 to September 23.

The course emphasized the management of mass casualties and the role of the dentist in national survival operations. In addition training was given in general military subjects and R.C.D.C. techniques and facilities.

Those attending the course were:

- Col. J. E. Merritt,
ADDS (M) Eastern Command,
Halifax, N.S.
- 50 Dental Unit (M) Halifax, N.S.
Major J. E. Hallett
Major N. J. Layton
Capt. D. A. Eisner
- 51 Dental Unit (M) Saint John, N.B.
Lt.-Col. G. L. Ramsay
Major H. F. Bonnell
Major D. E. Williams
- 53 Dental Unit (M) Montreal, Que.
Major J. M. R. Gourdeau
- 55 Dental Unit (M) London, Ont.
Major J. E. Peterson
Capt. R. S. Knight
Capt. J. G. Woods
- 57 Dental Unit (M) Winnipeg, Man.
Lt.-Col. M. J. Snidal
Major T. F. Gelley
- 58 Dental Unit (M) Regina, Sask.
Major M. Medora
Capt. E. Eades
Lt. G. Schwann
Lt. P. Samuel
- 59 Dental Unit (M) Calgary, Alta.
Lt.-Col. D. L. Thompson
- 60 Dental Unit (M) Edmonton, Alta.
Capt. A. G. Thompson
Capt. R. A. Yuodelis
- 61 Dental Unit (M) Vancouver, B.C.
Lt.-Col. F. K. Currie
Major P. L. Rondeau
Major D. L. MacLeod

Lt.-Col. Craigie and Major Brick Present Clinic

Lt.-Col. L. G. Craigie, The R.C.D.C. School, Camp Borden, Ont. and Major J. C. Brick, Directorate of Dental Services, Ottawa, presented a clinic on dental officer training for National Survival at the Canadian Dental Association Convention in September.

R.C.D.C. Association Meeting

Brigadier K. M. Baird, Director General of Dental Services addressed the opening ses-



FIRST MEETING OF BOARD OF CONSULTANTS TO THE RCDC

Seated, Left to Right: Dr. H. R. MacLean, Dean, Faculty of Dentistry, University of Alberta; Dr. D. W. Gullet, Secretary, Canadian Dental Association; Major General J. D. B. Smith, Adjutant-General, Canadian Army; Dr. D. W. Tanner, Oral Surgeon, Sunnybrook Hospital, Toronto, Ont.

Standing, Left to Right: Col. G. B. Shillington, Deputy Director General of Dental Services; Brig. K. M. Baird, Director General of Dental Services; Dr. J. P. Lussier, Associate Dean, Faculty of Dental Surgery, University of Montreal; Dr. J. D. MacLean, Dean, Faculty of Dentistry, Dalhousie University; Dr. J. W. Neilson, Dean, Faculty of Dentistry, University of Manitoba.

sion of the R.C.D.C. Association meeting at Ottawa on September 29, 1960.

Meeting—Board of Consultants to the R.C.D.C.

The first meeting of the civilian board of consultants to the R.C.D.C. was held at Army Headquarters on the afternoon of September 26, 1960. Six of the eight members of the board were in attendance and were welcomed by the Adjutant-General, Major-General J. D. B. Smith, C.B.E., D.S.O., C.D. The board took part in an informative and stimulating discussion following the presentation of short papers by officers of the Directorate of Dental Services outlining current R.C.D.C. activities and future plans.

R.C.D.C. Militia—General Efficiency Competition—1960

Army Headquarters has announced the results of the 1960 (Militia) General Efficiency Competition as follows:

No. 50 Dental Unit (M) with headquarters at Halifax, N.S., Commanding Officer Lt.-Col. G. C. McLeod, has been judged the winner of the Moore Trophy, as the Militia Unit considered to be the most efficient during the training year. No. 50 Dental Unit is to be congratulated having won this trophy in four consecutive years.

No. 55 Dental Unit (M) with headquarters at London, Ont., Commanding Officer, Lt.-Col. A. J. Harris, has been judged the runner-up in the competition and awarded the Trelford Trophy.

No. 61 Dental Unit (M) with headquarters at Vancouver, B.C., Commanding Officer, Lt.-Col. F. K. Currie, has been judged the unit which made the most progress in general efficiency during the training year and was awarded the Saskatchewan Dental Association Memorial Trophy.

THE PROVINCES

ALBERTA

Alberta Dental Association

The annual Alberta Dental Association golf tourney was held in Red Deer, September 10, 1960. Favoured by ideal weather, some 55 shot-makers turned out to make the circuit of the splendid Red Deer course.

Individual honours went to Dr. Alec Alexander of Calgary with a low gross of 73, this sparkling round being highlighted by a hole in one—Dr. Alexander's first ever, on the 150-yard sixteenth hole.

Runner up was Dr. Tom Demco of Vegreville with a gross 80. The team honours were won by a narrow margin of two strokes—335-337 by the Edmonton team.

Team members were: Edmonton—Ron Mullen, Tom Demco, Maurice Wright and Ralph Yuodelis. Calgary—K. C. Gray, Carm Johnson, Alec Alexander and Rex Ehrlart.

This event was sponsored by the Edmonton Dental Society. B. L. D.

Faculty of Dentistry, University of Alberta

Registration of students in the Faculty of Dentistry, University of Alberta, was completed during the week of September 5. The total enrolment for the 1960-61 year is 136 students which includes two special students. This is the largest enrolment ever recorded in the Faculty of Dentistry in any year.

A graduate in dentistry with honours, in 1960, Dr. Michael Wasylichuk, is now enrolled in the University of Minnesota. He received a National Institute of Health Fellowship which enables him to study biochemistry, and to receive a Ph.D. degree in this subject.

R. C. S.

Lethbridge & District Dental Society

The Lethbridge and District Dental Society held its October meeting on Monday, October 3rd. After a business meeting elections were held and the new executive for the year will be: president, Dr. Gordon Anderson; vice-president, Dr. G. Sakumoto, and secretary-treasurer, Dr. D. Steed.

D. A. R.

BRITISH COLUMBIA

New Combined Office

The office management committee has been active in planning a new joint-office for the College of Dental Surgeons, the B. C. Dental Association and the Vancouver and District Dental Society. The decision not to go ahead with the proposed Academy of Dentistry at the present time made it imperative that larger office accommodation be sought, and several locations were carefully investigated. As a result it was decided to move into larger quarters on the third floor of the Medical-Dental Building, and plans are now being prepared for the necessary alterations. Present indications are that the joint-office will be moved to this new space some time early in the new year.

Fraser Valley Dental Society

The first meeting of the season was held at Langley. Dr. Clay Hallman and Dr. Ross Upton discussed the views of the C.D.A. and B.C.D.A. and answered questions. Main topics were the technicians, welfare dentistry and fees, and the increasing use of auxiliary personnel, on which the C.D.A. is currently formulating a statement.

Dr. John Conchie showed an A.D.A. film on radiation hazards from dental x-ray machines and planned to assist anyone wishing to take part in a radiation control study.

The dues were increased in order to establish a bursary for dental students from the Fraser Valley district.

Fish Derby at Prince George

The highlight of the Prince George and District Dental Society for the summer was the annual fishing weekend at Stuart Lake. Dr. Waddell of Prince Rupert and Dr. MacEwen of Burns Lake won over Prince George with two trout weighing six pounds and seven and a half pounds. However they promised to repay with a shipment of fresh crab.

Golf Tournament

Quilchena Golf and Country Club was the setting for the fall golf day of the Vancouver and District Dental Society. After the drenched tournament in May, it was a pleasure to have beautiful weather for the event.

There were seventy-five who teed off and an equal number partook of a sumptuous dinner at the adjacent Skyline Hotel. These prizes were awarded:

Low gross and the Dick Butler trophy was tied by Drs. Matt Waterman, Murray Krasnoff and Sid Corman, each with 79. The former two players voluntarily withdrew from the contest, saying that they had each won prizes in the past. Thus Dr. Sid Corman was acclaimed as top winner.

Second low gross and the B. C. Laboratory Association trophy was then drawn for by Drs. Waterman and Krasnoff with the former making the lucky toss.

Low net and the Gerry Splatt trophy went to Dr. H. V. Tungate with a score of 66. Second low net with a 68 score was carried off by Dr. W. B. Hallett.

The two guest prizes were awarded to Gerry Splatt of the B. C. Dental Supply Company and Jack Crompton of the B. C. Laboratory Association.

Best score for a dentist over 50 years of age went to Dr. Dick Butler; for the best front nine to Dr. Tom McCusker with a gross of 40; for the best back nine to Dr. Ed Shaw with 38. Best golfer of the day was Dr. T. E. Ramage who had the dubious honour of having the highest score, 139, for the 18 holes.

Chairman of the golf committee, Dr. Sam Moscovich, seemed quite pleased with the success of the golf day.

D. H. M.

Victoria and District Dental Society

At the first session on September 19 the guest essayist was Dr. George Ling of the U.B.C. medical faculty. He gave a detailed lecture on pharmacology and uses of many of the drugs familiar to dentistry.

ONTARIO

University of Toronto Faculty of Dentistry Honours Drs. R. J. Godfrey and M. A. Cox

Dr. Richard J. Godfrey, professor of Prosthodontics and Head of the department, and Dr. M. A. Cox, professor of Preventive Dentistry and Head of the department at the Faculty of Dentistry, University of Toronto, were honoured at a testimonial dinner given on October 4, 1960, in connection with their retirement from active teaching duties. The dinner was tendered by the staff of the Faculty of Dentistry at the Granite Club, Toronto, as a symbol of the high regard and affection in which these two distinguished dental teachers are held by their friends and associates.

IN MEMORIAM

Wilfred Hyland Gifford—Dr. Wilfred Hyland Gifford of Oshawa, Ontario, died on September 22nd after suffering a stroke two days before. He was 60.

Born in Oshawa he received his education there, and in 1925 Dr. Gifford graduated from the R.C.D.S. of Ontario.

Dr. Gifford was a charter member of the Oshawa Kinsmen Club and served as one of the early presidents of the club. He served on many boards and commissions which promoted the growth and welfare of the city and community. He entered civic politics in 1939 and won a seat on city council and that year he served as vice-chairman of the General Purpose Committee. He was re-elected in 1940 and 1941, in the latter year, serving as chairman of the finance committee.

Dr. Gifford served as mayor in 1942, 1943 and 1945 and had the unique distinction of being accorded an acclamation on each occasion. He retired from the council at the end

of 1943 and successfully contested a seat on the Public Utilities Commission.

For many years he was active as a worker in the Liberal Party, and also took part in the work of the Oshawa Chamber of Commerce. He served for a number of years as a director and as chairman of the chamber committees.

Throughout the Second World War he served as chairman of the National War Finance Committee for Ontario County and gave leadership in the planning of the Victory Loan campaigns.

Brought up on a farm, Dr. Gifford retained his interest in agriculture and was a member of the board of directors of the South Ontario Agriculture Society for many years. He was president of the society in 1951 and 1952.

Dr. Gifford is survived by his wife Marguerite, and four brothers, William, Gordon, Lloyd and Lyman.

"In the basic fields of biology and physiology there are many important questions to which we do not now have the answers and on which more research is necessary. Some of the questions in this field are these: (1) Why do living things die? (2) Why do they die when they do? (3) Why does the probability of dying increase in successive years of life? And, more generally, (4) Is there such a thing as an "ageing process" that is primarily dependent upon the passage of time, or is what we call the ageing process primarily the result of repeated illness and injury, some of them minor, over a period of years?"

Dr. G. Halsey Hunt

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1961	Saskatoon, Saskatchewan	June 4th-7th
1962	Vancouver, British Columbia	June 3rd-6th
1963	Toronto, Ontario	May 19th-22nd
1964	Edmonton, Alberta	June 28th-July 1st
1965	Quebec City, Quebec	May 30th-June 2nd
1967	Toronto, Ontario	May

(Centennial Celebration
of Dentistry in Canada)

FUTURE EVENTS

Date	Function	Location	Officer	Address
May 21-24, 1961	Ontario Dental Association Convention	Royal York Hotel, Toronto, Ont.	Mrs. A. Durham,	230 St. George St., Toronto 5, Ont.
June 4-7, 1961	Western Canada Dental Society Convention	Bessborough Hotel, Saskatoon, Sask.	Dr. N. E. Gropper,	704 Canada Bldg., Saskatoon, Sask.
Nov. 21-27, 1960	34 ^{es} èmes Journées Dentaires Internationales de Paris	Maison de la Chimie, 28 bis rue St.- Dominique, Paris	Dr. J. Boursier,	17 rue du Colisée, Paris 8e, France

POSTGRADUATE COURSES AND REFRESHER COURSES

TORONTO—The Department of Radiology, Faculty of Dentistry, University of Toronto will present a postgraduate course in RADIOLOGY, March 13-17, 1961. Dr. H. M. Worth, eminent authority in radiographic interpretation will be featured as guest lecturer. The course will be directed by Dr. H. G. Poyton, Head of the Department, and will include seminars by Drs. C. J. Hare, G. A. Morgan, and C. H. M. Williams, who will discuss oral radiology in Endodontics, Oral Surgery and Periodontics, respectively. Tuition fee \$100.

Inquiries and requests for application forms should be directed to the Chairman, Division of Postgraduate Studies, Faculty of Dentistry, 124 Edward St., Toronto 2, Ontario.

TUFTS—Endodontics for the General Practitioner—March 20, 21, 22, 23, 1961.

Special Course in Surgical Management of Skeletal Deformities—May 8, 9, 10, 1961.

Orthodontic Principles of Interest to the General Practitioner—Each Wednesday for 8 weeks—Feb. 8th through April 5, 1961.

A Special Participation Course in Periodontology—April 24 through April 28, 1961.

The Diagnosis and Treatment of Pain and Other Symptoms Arising From Temporomandibular Joint Disturbances—May 23 and 24, 1961.

Surgical and Prosthetic Management of Advanced Periodontal Disease—March 1 and 2, 1961.

Crown and Bridge Design and Construction—Feb. 15 and 16, 1961.

Full Denture Prosthesis—June 5 through June 9, 1961.

Tufts University School of Dental Medicine also announces three full-time graduate courses in Periodontology under the direction of Dr. Irving Glickman.

Periodontology I—is a two-year specialist training program for certification in Periodontia and has been arranged in conformity with the requirements of the American Board of Periodontology. Half of the course is devoted to didactic instruction and the remainder to clinical practice. In addition to training in the Periodontia clinic, the student is given the opportunity of participating in clinics of allied dental and medical specialties. This wide range of clinical contact provides a useful background for expert management of periodontal problems.

Periodontology II—is a one-year specialist training program, a modification of the two-year course and is offered for individuals with a year's previous graduate or postgraduate training in periodontology.

Periodontology III—is intended for individuals with a primary interest in the academic and research aspects of Periodontology. It is an eighteen-months course leading to the degree of Master of Sciences or Master of Dental Science. This consists of didactic instruction in pre-clinical sciences with special emphasis on Periodontal pathology, clinical training in Periodontology, research and thesis. The facilities of the Ziskin Memorial Research Laboratory and other departments of the medical and dental schools are available for research activities. Upon the completion of such a program, one may prepare for specialty board certification by spending an additional six months in clinical study.

Inquiries should be directed to the Director, Division of Graduate and Postgraduate Studies, School of Dental Medicine, Tufts University, 136 Harrison Ave., Boston 11, Mass.

ALABAMA—General Anaesthesia—Jan. 7, 8, 9, 1961—Limited to diplomates of the American Board of Oral Surgery or members of the American Society of Oral Surgeons.

Crown and Bridge Prosthodontics—Jan. 20, 21, 22, 1961—with emphasis on pontic construction and fused porcelain veneers.

Oral Roentgenology—Jan. 28, 29, 30, 1961.

Further information may be obtained from: The Director, Refresher Course Program, University of Alabama School of Dentistry, 1919—7th Avenue South, Birmingham, Alabama.

YESHIVA—Anaesthesiology: Pre-medication, Co-medication and Supportive Therapy in Dental Practice—April 6 and 7, 1961.

Anaesthesiology: Preoperative and Pre-Anaesthetic Evaluation Techniques for all Dental Patients—June 9, 1961.

Endodontics—February 22, 23, 24, 1961.

Dento-Alveolar Surgery—May 4, 5, 1961.

Oral Pathology and General Practice—March 24, 31, 1961.

Advanced Oral Pathology—3 consecutive days December 1961.

Periodontics—10 Wednesdays, March 1 through May 3, 1961.

Periodontics—Oct. 30, 31, Nov. 1, 2, 3, 1961.

Prosthodontics—Friday mornings, March 3, 10, 17, 24 and 31, 1961.

For further information and application write to: Director, Postgraduate Dental Division, Albert Einstein College of Medicine, Yeshiva University, Eastchester Road and Morris Park Avenue, Bronx 16, New York.

AMERICAN ASSOCIATION OF ENDODONTISTS—The Association is sponsoring a symposium entitled *Biology of the Dental Pulp* at the Conrad Hilton Hotel, Chicago, on February 2, 1961. The program is open to members and non-members but attendance will be limited. Cheques in the amount of \$25, covering fees and luncheon, made payable to the Association should be forwarded to Dr. L. Farris, 1930 Chestnut St., Philadelphia, Pa., U.S.A.

PITTSBURGH—Applications are now being accepted by the Graduate Division of the University of Pittsburgh School of Dentistry for graduate study in the fields of Anaesthesiology, Oral Surgery, Orthodontics, Periodontics, and Prosthodontics, leading to the Master of Science degree. Selection of students for the Fall Session of 1961 will be made in March, 1961.

A non-degree, full-time, twelve month course in General Anaesthesia is also available for qualified dental graduates.

Graduate study in the pre-clinical basic sciences of Anatomy, Biochemistry, Microbiology, Pathology, Pharmacology, and Physiology, leading to the Master of Science or Doctor of Philosophy degrees is also offered through the Schools of the Health Professions. Successful applicants in this latter program are eligible for financial assistance in the form of traineeship.

Inquiries and requests for application forms should be directed to: Director of Graduate Education, University of Pittsburgh, School of Dentistry, Pittsburgh 13, Pa., U.S.A.

THE AMERICAN INSTITUTE OF ORAL BIOLOGY—The Institute continues to offer *CASE HISTORIES* from the broad field of Oral Biology for the year 1960-61. These will include original 35 mm. Kodachrome slides of pathologic conditions of the oral cavity and jaws, accompanied by pertinent laboratory findings, medical background, radiographs, photomicrographs, diagnostic criteria and whatever else may be indicated in each individual case, with a "general discussion" of the disease. A loose leaf binder and matching Kodachrome slide box will be furnished. The fiscal year of the Institute runs from October 1 to September 30.

The subscriber to this *CASE HISTORY SERVICE* is entitled to full membership in *THE AMERICAN INSTITUTE OF ORAL BIOLOGY*. Members of the A.D.A. or A.M.A., or their foreign equivalent, are eligible to apply. Due to the great demand for this Service, it is recommended to subscribe at an early date for immediate delivery. An index of the various diseases covered during this period will be mailed upon request. Complete series for the year 1954-59 are still available; unfortunately the series for 1952 and 1953 are out of print.

For further information, address all communications to the secretary, Mrs. C. Novembri, 2240 Channing Way, Berkeley 4, California.

Other information concerning dental meetings outside Canada is available at C.D.A. Headquarters upon request.

L'Association Dentaire Canadienne.

Volume 26

Numéro 11

novembre 1960

JOURNAL

L'orthodontie préventive dans un programme d'éducation et de correction en hygiène publique

par LOMER LEMIEUX, B.A., D.D.S., D.H.D.P., Montmagny, P.Qué.

Depuis l'époque pasteurienne, les grandes découvertes, qui ont illustré l'histoire de la médecine, ont aussi engendré la complexité des problèmes en hygiène publique. A la façon d'un éventail, le champ d'action des hygiénistes s'élargit. Dans tous les domaines de la santé publique, ils cherchent à modifier, par l'éducation des masses, le comportement des individus et à réduire, par les soins préventifs, l'écart parfois encore grand entre les découvertes scientifiques et leurs applications. Partout, leurs efforts sont maintenant conjugués en vue d'assurer le développement normal de l'organisme en éloignant les maladies et les accidents de la croissance, causés souvent, pour une large part, par le changement dans notre mode de vie et par l'industrialisation des produits alimentaires.

Parmi les nombreuses disciplines d'hygiène publique, l'orthodontie préventive en est cependant une qui est encore beaucoup négligée dans les cadres de nos programmes de service de santé. Pourtant, une malposition dentaire ou une déformation maxillaire, même mineure, peut entraîner chez l'handicapé de sérieuses difficultés se traduisant soit par une inadaptation émotionnelle ou sociale, soit par un insuccès scolaire ou professionnel, soit par la privation d'une santé normale. L'enfant qui présente un défaut dento-facial peut être handicapé de différentes façons. A mesure qu'il grandit et qu'il se développe, son infirmité peut s'aggraver au point de devenir évidente non seulement aux autres mais à lui-même. C'est alors qu'il se sentira différent des autres, qu'il craindra de ne pas être accepté de son entourage et

qu'il se sentira frustré dans l'accomplissement de ses fonctions. C'est dans cet ordre d'idées qu'en 1948, le rapport d'une conférence convoquée par le Bureau de l'Enfance des Etats-Unis, recommandait que les difformités dento-faciales soient considérées comme une "invalidité" et qu'elles soient incluses dans le programme des services dentaires de santé publique.

Nos programmes d'hygiène publique devraient donc orienter leurs services en vue de la répression systématique des malpositions dentaires et des malformations maxillaires. Le dentiste de service de santé étant, pour la plupart du temps, le premier à dépister la malocclusion durant les différents stades de la croissance physiologique et de développement, a la responsabilité de favoriser les traitements préventifs qui en limiteront les conséquences. Il doit aussi exploiter le dépistage précoce pour conseiller les parents sur le temps favorable au début d'un traitement; ce sera également l'occasion d'une éducation objective. Mais il faut, en plus, qu'il coopère avec les hygiénistes des autres disciplines à la diffusion des connaissances indispensables à la prévention des anomalies dento-faciales.

ANOMALIES DENTO-FACIALES

Il fut un temps où l'on fit peu pour placer les dents. En fait, ce n'est qu'au début du siècle qu'un dentiste américain, Angle, établit les principes de l'orthodontie et publia une méthode de diagnostic fondée sur l'occlusion molaire et l'articulation dentaire. D'autres théories, mises de l'avant par la suite par d'autres dentistes, donnèrent naissance à l'orthopédie dento-faciale. En premier lieu, on s'efforça de corriger les malformations et déformations maxillaires qui ont le plus de répercussion sur la santé générale de l'enfant. Puis, pendant et après la guerre, des savants ont constaté une diminution de la carie dentaire que l'on attribua à une carence du régime sucré. Par contre, ils ont observé une augmentation considérable de malformations et de déformations maxillaires et de malpositions dentaires. Ils en

concluaient qu'une alimentation très déséquilibrée du temps de guerre avait frappé l'os plus que la dent du fœtus.

L'organogénèse des maxillaires se ferait du premier au troisième mois de la gestation. Durant ces premiers mois de la vie utérine, les actions perturbatrices provoqueraient des troubles de croissance. L'hygiène et la diététique de la femme enceinte prendrait donc une importance de plus en plus grande.

Ces idées directrices servirent de fondement aux lois biologiques, esthétiques et organiques:

Lois biologiques: Selon Wolff, "la forme et la structure interne des os s'adaptent pour résister le plus efficacement avec le minimum de tissu, aux forces subies. La dysharmonie serait provoquée par une modification primitive, déterminant secondairement des déformations plus ou moins étendues des autres régions. L'anomalie débiterait donc par une lésion biologique."

Lois esthétiques: Pour Andresen et Häupel, "l'esthétique faciale normale indique une normalité de la bouche ou inversement."

Lois organiques: Kourilsky, au Congrès d'orthopédie faciale à Paris, en 1948, montra "l'unité profonde qui existe entre l'appareil respiratoire, depuis le nez jusqu'aux poumons". Il montra aussi "l'importance des dysmorphoses dento-faciales avec l'infection banale, l'infection bacillaire, l'insuffisance respiratoire et les désordres somatiques et pondéraux".

Les principes établis en accord avec les lois énoncées nous permettent de classer les troubles de développement dento-maxillo-facial et d'en énumérer les causes:

Ce sont, en premier lieu, les troubles consécutifs aux malformations congénitales, dans les premiers mois de la vie intra-utérine. Ils sont d'origine héréditaire et acquise. Les lésions congénitales héréditaires se fixent au cours de la construction même de l'œuf: anodontie, microdontie, macrodontie, divisions palatines, becs-de-lièvres, prognathie, rétrognathie.

Les lésions congénitales acquises agissent sur le germe dentaire ou maxillaire par certaines intoxications, certaines carences vitaminiques, certaines maladies à virus, certains facteurs endocriniens, certains agents physiques, tels que les rayons-X. Ces troubles de croissance sont: hypertrophie faciale, atrophie, macroglossie, micrognathie ou macrognathie.

De la naissance à la calcification totale de la face, les causes de perturbation sont générales, locales ou dentaires. Les premières agissent très tôt et sont les plus efficaces: le rachitisme et un hypo ou hyperfonctionnement des glandes endocrines, en particulier l'hypophyse et la thyroïde. Raison et Lepoivre parlent d'un enfant de dix ans, dont le ralentissement de croissance osseuse, par suppression de sécrétion thyroïdienne, avait été en grande partie comblée par un traitement thyroïdien. A cette époque de la vie de l'enfant, les maladies infectieuses, les intoxications, les carences vitaminiques sont aussi des causes générales acquises de troubles de développement dento-facial. Mais les plus importantes sont probablement les troubles généraux de nutrition engendrés par une alimentation mal équilibrée. Le retard de croissance provoquerait alors ou bien un défaut dans la structure de la face même, ou bien un défaut de synchronisme entre le développement osseux et le développement dentaire; ce qui oblige les dents à chercher leur voie comme elles le peuvent.

Les causes locales acquises sont: troubles respiratoires, amygdales hypertrophiées, végétations. Il faut mentionner aussi la glossoptose consécutive à un développement insuffisant du maxillaire inférieur. Le mouvement anormal de la langue en arrière gêne la respiration. Il en résulte une cavité buccale trop petite. Ajoutons à ces causes les troubles de la musculature, l'hypotonie, les troubles de déglutition, les troubles articulaires par ankylose de l'articulation temporo-mandibulaire, les tractions, les pressions anormales: succion d'un ou des doigts, interposition de la langue ou de la joue, insertion basse de la lèvre, positions ou habitudes vicieuses.

Les causes dentaires sont: extractions prématurées et les caries. Ces causes sont les plus fréquentes. Les anomalies dento-faciales les plus apparentes qui en résultent sont: des difformités faciales qui se manifestent par une mâchoire sous-développée, une figure asymétrique ou des dents supérieures en protrusion, des mutilations buccales qui nuisent à la parole, à la mastication et à la déglutition, une perte ou une absence suffisante de dents qui constitue un problème réel ou probable de santé.

On ne peut étudier les accidents de formation et leurs causes sans mentionner les dystrophies dentaires, à cause de leur répercussion sur l'évolution de la denture parfaite et sur la prophylaxie des anomalies dento-faciales. Les modifications de dimension, de forme ou de structure de la dent sont essentiellement des troubles de minéralisation de son germe, quoique certains troubles dystrophiques puissent intervenir soit à l'époque embryonnaire, ou au moment de la naissance, pendant l'enfance ou dans l'adolescence. Des troubles généraux agissent, au moment de la formation des dents, sur les couches concentriques folliculaires. La polygénésie folliculaire donne des dents surnuméraires. L'agénésie folliculaire donne l'anodontie ou l'oligodontie. Parmi les troubles du follicule dentaire, signalons la polycarie de la dentition ou la vulnérabilité dentaire, l'évolution trop précoce des dents, trop tardive ou vicieuse et en particulier les dystrophies. Selon Verboe "la lésion élémentaire paraît être un œdème, que l'on voit s'infiltrant autour des adamantoblastes, les désarticulant, les éloignant de l'émail en formation et les détruisant". L'asymétrie caractérise ces troubles qui semblent avoir le système nerveux comme origine.

Cependant le rachitisme, les troubles mentaux, l'hypotrophie physique et intellectuelle, les maladies infectieuses de l'enfance, l'avitaminose, les traumatismes influent sur la minéralisation à certains moments et créent ainsi des dystrophies ou des dysplasies, comme une hypocalcifica-

tion, des hypoplasies, ou des érosions particulières. Ces défauts dans les dents, écrit Fournier, rappellent l'aspect du bois entamé par les vers.

Les causes des anomalies, qui se manifestent au cours du développement dento-facial, sont nombreuses et variées. D'autre part, il semble qu'il y ait une inter-action entre les dents et les maxillaires: "Si la force d'évolution dentaire est plus petite que la gêne rencontrée, il y a inclusion ou malposition et déformation des maxillaires. Si la force d'évolution dentaire est plus grande que la gêne rencontrée, il y a organisation normale des maxillaires."

On peut dire en résumé que la plupart des malpositions dentaires sont des symptômes de déformation et de dysmorphose maxillaire. L'orthodontie préventive doit donc être orientée vers l'éducation et la restauration. Elle aura pour objectif le maintien des relations physiologiques entre les dents, les arches dentaires et les muscles adjacents.

DÉPISTAGE ET ÉDUCATION

Dans la province de Québec, nos statistiques sur les anomalies dento-faciales sont nulles, mais on rapporte qu'aux Etats-Unis, 50% des enfants et des adolescents souffrent de malpositions dentaires. A Cicero, Illinois, 3% seulement des enfants ont une occlusion idéale. Dans l'Etat du Michigan, sur 7400 enfants examinés, 27% avaient besoin d'un traitement orthodontique. Les statistiques révèlent qu'il y a, dans le monde, un cas de bec-de-lièvre sur 500 naissances: 25% de ces cas sont des fissures de la lèvre, 35% des fissures du palais et 40% des fissures labiales et palatines à la fois.

Il est certain qu'une enquête menée dans la province de Québec sur les anomalies dento-faciales et leurs effets secondaires sur la santé des enfants, sur leur comportement scolaire, social et physique déterminerait l'ampleur du problème. Déjà, les nombreuses malpositions dentaires et malformations maxillaires, enregistrées dans les cliniques d'examen préventifs par les cliniciens des unités sanitaires, de-

vraient inciter à une campagne massive d'éducation.

Les différentes disciplines professionnelles intéressées au développement normal de l'enfant devraient coordonner leurs efforts: médecins - hygiénistes, dentistes-hygiénistes, cliniciens-dentistes, oto-rhino-laryngologistes, pédiâtres, diététistes, psychologues, etc. . .

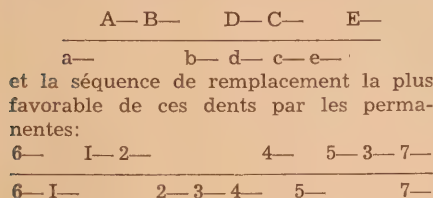
Les anomalies dento-faciales peuvent être difficiles à dépister. Certains défauts tels que les bords-de-lièvres ou les fissures palatines peuvent facilement être décelables à la naissance; par ailleurs les symptômes de certains défauts ne peuvent se manifester qu'avec l'âge et le développement de l'enfant. Ainsi, le succion du pouce ou les autres mauvaises habitudes, un défaut particulier de la parole ou un sifflement dans la prononciation, une diction anormale ou un retard dans l'apparition des dents peuvent constituer des symptômes de problèmes maxillo-dentaires qui demandent à être analysés dès leur apparition.

Toutes les mesures préventives et éducatives appliquées par les services de santé pour promouvoir une bonne santé générale ont leur importance dans la répression des anomalies dento-faciales, en particulier toute mesure qui tend à maintenir un équilibre normal des fonctions de l'organisme et qui pourvoit à la fixation du calcium et des autres minéraux nécessaires. Il ne faut pas perdre de vue que, tant que le cycle de la calcification, visible à la radio du poignet, n'est pas terminée, nous pouvons agir sur la croissance des maxillaires, même espérer la calcification d'une diastasis, si les moyens mécaniques ne peuvent plus provoquer une expansion osseuse. Cependant le dentiste-hygiéniste a la responsabilité de coordonner tous les efforts d'éducation dans ce domaine. L'hygiène dentaire doit commencer avec les premiers jours de la grossesse. On enseignera l'influence des carences vitaminiques, des maladies infectieuses aiguës, des troubles du métabolisme, de la circulation et de la malnutrition, des troubles endocriniens, des anoxémies. On signalera

l'importance des soins pré-nataux, post-nataux et pédiatriques, des accidents de l'accouchement, de la surveillance médicale, des problèmes médicaux spécifiques comme les perturbations des fonctions des glandes thyroïdes, parathyroïdes et pituitaires. On reconnaîtra les types "adénoïdes" causés par l'obstruction chronique du naso-pharynx qui force la respiration par la bouche, de même que l'on signalera les déviations du septum nasal. Il ne faudra pas négliger les fractures des dents qui sont des accidents fréquents dans le jeune âge.

Le dentiste-clinicien de service de santé, par un examen périodique et un diagnostic précoce, peut prévenir des désordres futurs ou éventuellement réduire la gravité d'une malocclusion ou éliminer un traitement orthodontique ultérieur coûteux. Ses solides connaissances des défauts dentaires et maxillaires lui permettront de vaincre l'insouciance des parents en présence d'une malocclusion souvent au stade initial chez leurs enfants. Aucun mode d'éducation en effet n'est plus objectif et efficace que celui exercé au fauteuil dentaire à condition que le dentiste soit armé de connaissances suffisantes qui lui permettront d'envisager avec confiance tous les problèmes.

Il doit donc pouvoir établir un diagnostic précis selon les données indispensables à l'analyse complète de la dentition mixte. Pour ce faire, il devra avoir à la mémoire une idée exacte des diverses séquences d'éruption des dents fondamentales, celle la plus souvent rencontrée:



Un espace normal entre les dents fondamentales permet le remplacement de ces dents par les permanentes qui sont plus grosses. Un manque d'espace lui indiquera une arcade trop étroite ou des dents trop

grosses. Entre trois ans et six ans, l'espace inter-canine est stable. Il devra en tenir compte, de même que le diastème normal entre à l'âge de sept ans. Il devra aussi observer une croissance continue des procès alvéolaires et vérifier si "l'espace des primates" existe entre la canine fondamentale et la première molaire fondamentale, pour accommoder les centrale, latérale et canine permanentes.

Le patient sera examiné avec les dents en occlusion habituelle et l'examineur devra pouvoir distinguer entre l'occlusion normale idéale et l'occlusion fonctionnelle.

Dans un service de santé, l'examen préventif devrait comprendre l'analyse des cas de malocclusion et leur classification. C'est la responsabilité des services d'hygiène publique d'être à l'avant-garde du mouvement d'éducation en orthodontie préventive. La base de cette éducation repose sur les facteurs suivants:

- a) Un minimum de connaissance de la part du dentiste examinateur, des mesures préventives en regard des irrégularités dentaires et maxillaires.
- b) Des examens complets, faits en présence des parents.
- c) Des fiches d'examen démontrant fidèlement l'étendue des anomalies rencontrées et même des malocclusions individuelles; des fiches complètes bien remplies, en accord avec un diagnostic précis, sont le point de départ d'un traitement individuel adéquat et des soins répétés par la suite sous surveillance clinique.

THERAPEUTIQUE ET PREVENTION

Jusqu'à maintenant, il semble qu'on n'ait pas vraiment songé à introduire dans nos programmes d'hygiène publique l'orthodontie préventive comme mesure pratique de santé. On a négligé les soins préventifs parce que les dentistes eux-mêmes réservaient les traitements orthodontiques pour les spécialistes. Il n'est pourtant pas plus logique de dire que tous les cas de malocclusion doivent être traités par les orthodontistes que de dire que tous les cas de chirurgie doivent être traités par les spécialistes.

Depuis quelques années, les techniques orthodontiques se sont développées et tous les dentistes sont maintenant en mesure de traiter les cas faciles de malocclusion. Il serait souhaitable que les services de santé puissent fournir tous les traitements orthodontiques préventifs. Dès lors, le rôle du dentiste de service de santé serait de prévenir et même corriger certaines anomalies en éliminant les facteurs étiologiques et en appliquant les traitements précoces et simples. Son rôle serait donc de reconnaître les anomalies et leurs causes, d'instituer des mesures préventives et des correctives simples, extraire toute dent surnuméraire qui est cause de malocclusion et même avoir les possibilités de placer un appareil de maintien aussitôt qu'une dent fondamentale a été extraite. Il devrait même traiter certains cas faciles comme la linguo-version et la labio-version, lorsqu'il y a de la place pour les linguales, de une ou plusieurs incisives supérieures de classe I d'Angle.

En résumé, le dentiste de service de santé devrait s'occuper des cas que l'on peut classer comme préventifs et ceux qu'il peut aider par des traitements simples. Ayant une connaissance approfondie de l'étiologie de la formation et des déformations maxillaires, de l'influence de l'âge, il tentera de contrôler, par de fréquentes vérifications de l'évolution dento-maxillaire, les causes acquises de malocclusion et surveillera les pressions exercées par les mauvaises habitudes.

Mais la première préoccupation du dentiste clinicien, qui doit s'occuper du bien-être de l'enfant, sera de prévenir la perte prématurée des dents fondamentales et des dents de six ans, puisque l'extraction injustifiée de ces dents a des conséquences dentaires et maxillaires très grandes et parfois même désastreuses. Nos programmes revisés et dirigés d'hygiène dentaire publique, visant à la conservation des dents de l'enfant, auront pour effet de protéger sa dentition mixte. L'extraction de routine dans les services de santé est probablement la première cause des malpositions dentaires.

Le dentiste de service de santé a enfin un autre rôle à jouer: celui de dépister les cas plus graves de malocclusion, de conseiller et de diriger à temps le jeune patient chez l'orthodontiste qui peut appliquer le traitement pour traiter la malocclusion existante. En effet, c'est le stage de développement de la malocclusion et non l'âge chronologique qui joue un rôle décisif dans le traitement orthodontique curatif.

CONCLUSIONS

Le père de l'orthodontie moderne, Angle, écrit: "A moins de quelques exceptions, le meilleur équilibre, la plus parfaite harmonie, les plus justes proportions de la bouche envisagées dans ses rapports avec les autres traits de la face réclament l'intégrité de la dentition et exigent que chaque dent occupe sa position normale. En un mot, il faut l'occlusion parfaite." Ainsi, on peut dire que l'esthétique est l'objet immédiat de l'orthodontie. On en a la conviction lorsqu'une mère éplorée nous présente un enfant de dix ans avec des dents en malposition et nous demande conseil. "Ses dents poussent affreusement mal et il s'enlaidit", nous déclare-t-elle. N'est-il pas déjà trop tard pour corriger la forme d'une bouche mal proportionnée aux autres traits?

Mais si l'intégrité de la denture, agissant sur la forme de la bouche et les traits de la figure, est un objet de beauté, par contre, les anomalies dento-faciales ont une action indéniable sur la santé de l'enfant. C'est par l'éducation que l'on réussira à faire comprendre la nécessité de rétablir le rôle fonctionnel des dents. Généralement, dans ce domaine, ce rôle passe au second rang. Pourtant, les dents en malocclusion sont des dents pliées d'une scie et leur force de mastication est souvent nulle. De plus, tous les domaines de la dentisterie s'intéressent à l'occlusion; l'occlusion intéresse les dents et les dents intéressent la membrane périodontaire.

Les nombreuses malformations dentaires et maxillaires sont liées à des troubles de croissance, de développement, de phona-

tion, de nutrition et d'infections périodentaires et même générales qui devraient intéresser les services d'hygiène publique. Lors des examens scolaires préventifs, on ne s'en occupe guère et généralement on ne voit pas les conséquences désastreuses sur le développement physique, physiologique et psychique de l'enfant.

Le dépistage précoce peut prévenir des profils dysharmonieux. Souvent les malpositions dentaires ne sont que des symptômes de dystrophies maxillaires entravant l'aération et l'oxygénation. L'éducation en évitera un très grand nombre. Les soins adéquats précoces pourront corriger les défauts déjà existants qui présentent un obstacle sérieux au développement de l'enfant.

L'orthodontie préventive peut jouer un grand rôle dans l'épanouissement de la personnalité en hygiène publique, si l'on songe à tous les maux qu'elle peut prévenir ou corriger et qui trop souvent "éteignent et déforment sur les lèvres de nos chers enfants, le sourire, l'une des plus belles choses que Dieu ait données à la terre."

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BICENTENAIRE DE LA MORT DE PIERRE FAUCHARD

Paris, 1er et 2 juillet 1961

Il y aura l'an prochain exactement 200 ans depuis la mort de celui que la profession mondiale reconnaît unanimement comme étant.

le Créateur de la Dentisterie moderne.

Les dentistes français ont décidé de célébrer cet événement avec tout l'éclat qu'il convient et invitent cordialement leurs confrères de tous les pays à se joindre à eux.

Le programme des cérémonies sera communiqué ultérieurement. D'ores et déjà on peut annoncer:

l'inauguration d'un monument, érigé par les soins du Comité, dans la cour d'honneur du château de Grand-Mesnil, qui fut habité par Fauchard, à Orsay près Paris;

une séance solennelle dans le grand amphithéâtre de la Sorbonne en présence de membres du Gouvernement français;

la réédition de l'ouvrage "le CHIRURGIEN DENTISTE", qui le rendit immortel et qui est actuellement à peu près introuvable;

probablement l'émission d'un timbre-poste à l'effigie de Fauchard; etc.

Les dates des cérémonies ont été choisies pour permettre au plus grand nombre de confrères d'y participer: elles se situent entre le Congrès à Paris, de l'American Dental Society of Europe (24 au 30 Juin) et la réunion annuelle de la F.D.I. à Helsinki (9-16 Juillet).

Pour tous renseignements s'adresser à: M. Max FILDERMAN, Secrétaire-Général du COMITE NATIONAL du BICENTENAIRE de FAUCHARD, 67, rue de Tocqueville, PARIS XVIIe.

Nouvelles de l'Association

Le FTC ordonne d'arrêter la publicité pour un dentifrice

Le Federal Trade Commission des Etats-Unis a ordonné à la Cie Colgate-Palmolive d'arrêter la prétention que son dentifrice Colgate, contenant du gardol, prévient complètement la carie dentaire. La Compagnie se propose d'en appeler de cette décision, car elle dit qu'elle "n'a jamais prétendu ou qu'elle n'a jamais voulu laisser l'impression qu'aucun de ses dentifrices donnait une complète immunité contre la carie dentaire."

La compagnie, dans sa défense contre l'allégation du FTC, dit qu'elle a volontairement abandonné dans sa réclame la mention que son dentifrice enrobait les dents d'une couche protectrice invisible et qu'un "ordre de cesser ou de s'abstenir" n'aurait aucun effet sur une action qui ne se pratique plus. Les experts du FTC ne sont pas de cet avis; ils disent "qu'il est probable que le défendeur présentera éventuellement sous un faux jour les vraies propriétés du dentifrice Colgate avec gardol, à moins qu'un "ordre de cesser et de s'abstenir" ne soit promulgué. La décision du FTC n'est pas finale.

Fluoration aux Etats-Unis

Trente-sept millions et demi de citoyens des Etats-Unis vivent, au 2 août 1960, dans des municipalités où l'eau est fluorée. Ce chiffre représente 21% de la population. Le Service de Santé publique des Etats-Unis rapporte aussi que 1,932 villes et 1,091 aqueducs dont touchés dans cette mesure.

Fluoration en Suisse

La ville d'Aigle, en Suisse, comptant 4,500 habitants, a été, la 25 juin dernier, la première de ce pays à fluorer son eau de consommation.

Fluoration en Hollande

On annonce en Hollande que le gouvernement promulguera un décret appelé "décret des aqueducs" en vertu duquel il sera possible d'ajouter des fluorures à l'eau de consommation pour combattre la carie dentaire. Le Conseil de Santé a récemment fait un rapport en faveur de la fluoration. Le Ministre de la Santé a déclaré que le gouvernement se contentera, pour le moment de fournir des renseignements sur la question et de donner son approbation aux demandes qui lui seront faites pour la fluoration.

Bienvenue à de nouvelles publications

Deux nouvelles publications ont été ajoutées à toutes celles qui forment le journalisme dentaire canadien et toutes deux sont

de Québec. "Information" est une publication bilingue du genre de lettre-nouvelle, qui est publiée par le Collège des Chirurgiens-Dentistes de la province de Québec. L'autre, News and Views, a eu son premier numéro récemment et il est publié par le Montreal Dental Club. Ces deux journaux seront bien reçus par leurs lecteurs.

Soins dentaires pour les vieillards en Colombie britannique

Le Collège des Chirurgiens-Dentistes de la Colombie britannique étudiait depuis trois ans une formule pour prodiguer des soins dentaires aux vieillards de cette province. Il a d'abord conçu un plan par lequel cette catégorie de citoyens pourrait être traitée dans un genre de clinique. Le gouvernement fut approché, mais en vain, pour fournir l'installation de cette clinique. Le Conseil de la C.-B. songea alors à un plan qui permettrait à ces personnes de se faire traiter dans les cabinets des dentistes. Cette idée dérangeait moins des dentistes et assurait aux vieillards des soins plus personnels, tout en ne leur imposant pas les inconvénients d'une clinique. La Société Dentaire de Victoria, sous l'égide du Collège de la C.-B., vient de matérialiser ce projet.

La Colombie britannique doit faire face à un problème particulier au sujet des gens âgés. Les statistiques montrent qu'il y a environ 150,000 citoyens qui ont plus de 65 ans, soit 10% de la population. La proportion de tout le Canada est de 7.7%. De ces 150,000 personnes, environ 100,000 n'ont pas droit à des allocations d'assistance spéciale et ne sont pas éligibles pour des soins médicaux ou dentaires gratuits. Le but du Collège est d'aider les gens de cette catégorie d'âge qui ne peuvent recevoir autrement des traitements dentaires.

Le Silver Threads Service, qui coordonne et dirige les activités des organisations de vieillards du Grand Victoria, collabore avec la Société Dentaire de Victoria pour mettre en oeuvre ce plan. Cette agence aidera à choisir les patients selon leurs besoins pour système pour rembourser les dentistes des dépenses qu'ils doivent faire eux-mêmes en rendant ces services. La période d'essai se terminera le 31 décembre 1960. On saura alors si le plan est viable et s'il mérite d'être continué. Le Conseil de la C.-B., si ce plan des prothèses. Le Collège est à élaborer un donne satisfaction, verra à l'étendre à d'autres régions de la province.

Statistiques d'impôt

La moyenne des revenus des 4,479 dentistes canadiens qui ont rempli des formules d'impôt sur le revenu pour 1958 a augmenté de 4% du montant de \$10,662, qu'elle était, l'année précédente. Cet accroissement monte de 2.9% la place que les dentistes travaillant pour eux-mêmes occupent parmi ceux qui paient l'impôt le plus considérable au Canada. Les dentistes occupaient la cinquième place dans le groupe des occupations en 1957; en 1958, leur rang est monté au quatrième.

occupation	nombre	1958	1957
		revenus moyens	revenus moyens
médecins et chirurgiens	12,201	\$15,264	\$13,978
ingénieurs et architectes	2,109	14,260	14,581
avocats et notaires	7,133	13,163	13,244
dentistes	4,479	10,662	10,234
comptables	3,826	10,627	10,879
courtiers	96,318	6,281	6,233
autres professions	8,157	6,248	5,711

Un dentiste, selon les "Statistiques d'Impôt" qui est une publication annuelle du Ministère du Revenu National, est un individu "qui exerce dans un but lucratif". Le nombre de ceux-ci représente 80% de la profession. Les dentistes à salaire sont classifiés dans ce rapport statistique, comme des employés et non comme des dentistes. Plus de la moitié des dentistes travaillant à leur compte ont fait plus de \$9,000 et la catégorie la plus nombreuse de ceux-ci se recrutent chez ceux qui ont fait entre \$5,000 et \$10,000. Presque 20% ont fait plus de \$15,000 et le 3% plus de \$20,000.

Le dentiste en clientèle privée a versé, en moyenne, en 1958, \$1,755 d'impôt sur le revenu, 92.6% de cet impôt a été prélevé des revenus provenant de l'exercice professionnel, 1.6% de salaires et 6.8% d'autres sources.

11.6% (\$332.) d'exemptions et de déductions provenaient de dons de charité, d'honoraires médicaux et d'autres items permis par la loi.

La moyenne des revenus classifiée par provinces montrent que les dentistes du Manitoba reçoivent les honoraires les plus élevés et ceux de l'Île-du-Prince-Edouard les plus bas.

provinces	nombre des dentistes qui ont rempli des formules	revenus moyens
Manitoba	177	\$12,294
Saskatchewan	206	12,233
Colombie britannique	537	12,073
Ontario	1,886	11,603
Alberta	340	11,526
Nouvelle-Ecosse	99	10,768
Terre-Neuve	33	9,273
Québec	1,045	7,873
Nouveau-Brunswick ..	132	7,675
Île-du-Prince-Edouard	28	6,607

On veut la meilleure protection sanitaire possible

(du Medical Economics, 15 août 1960)

Ils veulent la meilleure protection possible pour leur santé: les formules à peu près complétées montrent que 80% des 1,800,000 employés du gouvernement, qui viennent de s'assurer pour leur santé et celle de leurs dépendants, ont choisi le plan de plus complet et celui qui coûte le plus cher.

Autopsie en Saskatchewan!

(tiré du Canadian Actuarial Bulletin, juillet 1960)

Les élections provinciales tenues en Saskatchewan, le 8 juin dernier, ont élu au gouvernement le parti CCF (Cooperative Commonwealth Federation), qui est le parti socialiste officiel du Canada. Le CCF a remporté 38 sièges et les libéraux 16 sur un total de 55 sièges. L'élection a été retardée dans un comité. Les deux autres partis d'opposition, les conservateurs et les créditistes sociaux, n'ont pas remporté un seul siège. Le vote populaire comparé à celui de 1956 s'établit comme suit:

	1960	1956
CCF	41%	45%
Libéraux	33%	30%
Conservateurs	14%	2%
Créditistes sociaux	12%	22%
Autres	...	1%
	100%	100%

L'argument principal des C.C.F. était de donner à la population de Saskatchewan (pop. 907,000, environ 5% de toute la population du Canada) une médecine socialisée d'après un système d'assurance obligatoire de protection complète, où les malades pourraient choisir leur médecin, où les médecins seraient payés pour chacun des services rendus et où tout le plan serait financé en partie par des primes payées par les citoyens. Aucun des trois partis d'opposition n'apporta de réelle raison pour s'opposer à ce projet. Les libéraux suggérèrent un référendum pour connaître les désirs de la population; les conservateurs mentionnèrent une enquête royale; les créditistes sociaux semblèrent dire que le temps n'était pas opportun pour une telle mesure.

L'analyse du vote indique à première vue, puisque le CCF était le seul parti à préconiser l'assurance-santé gouvernementale, que pour deux voteurs en faveur de la mesure sociale, il y en avait trois qui étaient contre. Mais ces calculs sont fantaisistes. Un ancien député libéral nous rappelle que plusieurs personnes dont les principes ne leur permettaient pas de voter CCF auraient quand même supporté la médecine socialisée, si on avait tenu un référendum sur la question. Cet ancien député a de plus ajouté qu'une grande partie de la population croyait que les médecins avaient des honoraires trop

élevés; que la campagne organisée par les médecins contre le CCF avait en fait rallié plusieurs votes pour ce parti et pour la médecine étatisée qui autrement n'aurait pas été mise en force.

Une chose est certaine: c'est que la masse des voteurs n'a pas compris à fond ce que signifie la médecine d'Etat. Plusieurs d'entre eux ont été influencés par le fait que l'Angleterre a une médecine socialisée depuis quelques années et, qu'en fin de compte, tout n'a pas si mal marché là-bas. Ces gens ne comprennent pas que l'Angleterre impose de facto un grand nombre de restrictions aux médecins; la Saskatchewan prétend qu'elle n'imposera pas de restrictions (ce qu'elle ne pourrait pas faire, d'ailleurs; il est plus facile à un médecin de Saskatchewan de changer de province qu'à un médecin d'Angleterre d'émigrer de son pays), mais, sans ces restrictions, le coût d'un tel système sera astronomique. D'autres ont pensé que la Saskatchewan avait été la première province à instaurer chez elle un plan d'assurance-hospitalisation et que cette organisation n'avait pas si mal marché. (Ce système a ensuite été adopté par la plupart des autres provinces avec l'aide du gouvernement fédéral). Ces gens n'ont pas réalisé qu'il y a une différence essentielle entre la socialisation des hôpitaux et celle de la médecine, comme il y a une différence essentielle entre la socialisation des moulins à farine et celle des fermiers. (Il y a un paradoxe formidable en Saskatchewan, une province qui est en grande partie agricole. C'est la seule province qui a un gouvernement complètement socialiste et en même temps celle qui normalement ne devrait pas l'être. Les fermiers intéressés au socialisme sont aussi rares que les dents des poules, excepté ceux qui, comme tous les autres, espèrent retirer quelque chose de ce système politique).

Les partisans de la socialisation de la médecine, comme tout gouvernement qui préconise des mesures sociales avancées, ont remporté la victoire en agitant l'épouvantail du citoyen pauvre, qui, à cause de ses petits revenus, ne peut se faire soigner convenablement. Ceux qui sont en faveur de la médecine d'Etat ne semblent pas réaliser que, dans notre pays, grâce à notre système d'assistance publique, tout indigent peut se faire soigner même s'il n'a pas les moyens de payer—et cet indigent reçoit les meilleurs soins possibles. Autre paradoxe: en définitive, ceux qui profiteront le plus de ce système—financièrement parlant—seront les médecins. Sans les contrôles qui s'imposent, et que la province ne peut exercer, la part des revenus de la Saskatchewan, qui sera consacrée à la médecine, grossira sans cesse pour arriver à la fin dans les goussets des médecins. L'étiquette professionnelle et les

traditions de la profession médicale n'imposent plus aux médecins de travailler au moins un peu pour rien et de charger de petits honoraires pour les gens pauvres. (La profession médicale, nonobstant les critiques dont elle est l'objet, se comporte ainsi, à l'heure actuelle). Tout citoyen aura maintenant un compte de banque illimité pour ses traitements médicaux et, s'il réclame des soins dont il n'a pas besoin, pourquoi les lui refuser? Le citoyen pourra choisir son propre médecin et, s'il ne peut obtenir pas ce qu'il veut de son thérapeute, il pourra en consulter un deuxième. Il y a, évidemment, quelques bons citoyens, surtout des gens âgés qui n'ont pas de gros revenus et qui ne sont pas protégés par des assurances privées; ces personnes qui ont besoin d'être traitées, s'attendent à payer des honoraires raisonnables pour les soins qu'ils reçoivent.

Il y aurait donc ainsi un petit groupe de citoyens qui bénéficieraient des avantages d'un plan semblable, si des médecins leur chargeaient des honoraires qui leur créeraient des embarras réels au point de vue pécuniaire. Mais cette protection accordée à un petit groupe de personnes coûterait un prix effroyable, si, en fait, un problème existe pour cette classe de citoyens.

Au début, le plan de la Saskatchewan coûtera en primes environ \$10.00 par mois, par famille; les taxes de vente augmenteront ou de nouvelles taxes seront sans doute imposées. Le montant total des dépenses occasionnées par ce système dépendra du contrôle que le gouvernement pourra politiquement exercer sur ses voteurs et sur les médecins. L'établissement de la médecine d'Etat au Canada se base plutôt sur des formules gouvernementales plutôt que sur le principe lui-même. Tous les politiciens surveilleront avec intérêt le comportement—heureux ou malheureux—du "tigre" que la Saskatchewan tient par la queue."

La province de Manitoba amende sa loi dentaire

La Législature de Manitoba a voté la loi no 82 qui avait pour but d'amender la loi dentaire, comme le demandait l'Association dentaire de Manitoba. Les bills présentés par les techniciens honnêtes et les hors-la-loi furent rejetés.

Les clauses les plus intéressantes des amendements de la loi dentaire sont les suivantes: délégation de plus grandes attributions aux hygiénistes dentaires sous le contrôle des dentistes; organisation de cliniques dentaires dirigées par des dentistes en règle avec l'Association; addition d'une clause d'ordonnances; nouvelle définition de la dentisterie; addition d'une clause au sujet de l'injonction. Cette législation est l'aboutissement de négociations entre le gouverne-

ment et la profession dentaire qui ont duré plusieurs années. Les problèmes de la pratique illégale avaient atteint des proportions insupportables et les techniciens marrons avaient sollicité le droit d'exercer directement pour le public. La nouvelle loi qui accorde plus de latitude au personnel auxiliaire et qui favorise l'organisation de cliniques dentaires sans but lucratif a comme objectif de mettre à la disposition du public plus de services dentaires, tout en laissant ces services sous le contrôle direct et l'entière responsabilité de dentistes qualifiés.

La nouvelle clause touchant aux prérogatives des hygiénistes se lit comme suit:

- "(b) accordant aux hygiénistes dentaires le droit de prodiguer, sous la juridiction et le contrôle direct d'un dentiste qualifié les services suivants:
 - (i) nettoyer et polir les dents;
 - (ii) donner des conseils et faire des démonstrations sur l'hygiène dentaire et le soin de la cavité buccale;
 - (iii) prendre des radiographies des dents et des maxillaires;
 - (iv) prendre des empreintes des maxillaires, qui peuvent servir à la confection de pièces de prothèse;
 - (v) calculer et enregistrer les rapports qui existent entre un maxillaire et l'autre; et
 - (vi) réparer des fissures des prothèses et remplacer les dents artificielles tombées ou brisées d'une pièce de prothèse."

Le texte de la loi recommandant l'organisation de cliniques se lit en partie comme suit:

- "(a) favorisant l'organisation, le développement et la direction d'une clinique ou de cliniques dentaires, où des dentistes enregistrés prodigueront les soins et les traitements dentaires des personnes résidant dans la province;
- (b) prévoyant la formation d'un comité de six membres pour diriger de telles cliniques; ce comité composé de quatre représentants de l'Association et de deux personnes nommées par le Ministre de la Santé et du Bien-Etre public et définissant les devoirs et les pouvoirs de ce comité de direction;
- (c) établissant les honoraires devant être perçus dans ces cliniques des personnes qui y seront traitées.
- (d) établissant la distribution de la partie des fonds fournis par l'Association pour aider à l'organisation, au développement et à la conduite de telles cliniques."

Assurance-santé—Débats à la Chambre des Communes

Voici un résumé tiré des "Débats à la Chambre des Communes," de lundi le 29

février 1960. On peut noter que ces discussions ont rempli le temps qui leur était alloué sans qu'aucune décision ne soit prise sur le sujet.

A Peters (CCF)

Il est proposé que le gouvernement songe à la possibilité d'établir un système complet d'Assurance-Santé nationale, en amendant la loi d'Assurance-Hospitalisation et celles des Services de Diagnostic, de façon à couvrir les malades des sanatoria pour tuberculeux et pour débilité mentale et pour comprendre les soins médicaux, dentaires et optométriques.

"Comme le coût des traitements pour la santé augmentent constamment, il devient de plus en plus nécessaire que le Canada établisse un plan quelconque d'assurance-santé pour répondre aux besoins de ceux qui ont de la difficulté à financer seuls leurs traitements.

Nous croyons que le gouvernement fédéral, qui a stimulé certaines provinces à établir l'assurance-hospitalisation, devrait aussi prendre les devants pour compléter la protection de toute la population du Canada par un système gratuit d'assurance-santé . . . il me semble que les habitants du Canada, peu importe leurs revenus, ont droit aux meilleurs services de santé possible; et s'il ont droit à ces services, nous devrions être capables de les leur fournir."

Décrit ensuite quelques problèmes qu'ont soulevés dans les provinces l'application des plans d'assurance-hospitalisation.

Loue cet aspect du système anglais qui fournit gratuitement les yeux artificiels.

"Il y a plusieurs citoyens du Canada — et parmi eux des étudiants des régions rurales — qui ont besoin de verres, peu importe le genre."

Déclare que les honoraires ont augmenté à un point tel que plusieurs Canadiens trouvent que les traitements médicaux, dentaires et optométriques sont au delà de leurs moyens."

"Il est fatal qu'une mesure du genre s'implantera un jour au Canada et je suis d'avis qu'il vaut aussi bien agir tout de suite. Nous devrions unir nos bonnes volontés pour offrir notre aide à toute province qui désirerait établir un plan de santé sur une base provinciale."

"...le plus tôt nous tiendrons une conférence dans le but de fixer le coût de l'entreprise (mentionnée dans la résolution) et pour rédiger la législation nécessaire à sa mise en acte, à une échelle vaste et généreuse, le plus tôt la population du Canada pourra jouir des bienfaits d'un programme efficace d'assurance-santé."

Dr G. G. Fairfield (PC)

S'oppose aux clauses de la résolution qui

traitent d'un système national d'assurance-santé, parce que les règlements qui y sont inclus pour en régler la marche et l'exercice des médecins seraient nuisibles à l'exercice médical.

Fait une revue des mesures de santé déjà existantes, telles que les programmes de recherches médicales menées par le Conseil des Recherches du Ministère de la Défense nationale, la réglementation et les inspections des aliments dirigées par le Ministère d'Agriculture et le contrôle des aliments et des drogues imposé par le Ministère de la Santé nationale et du Bien-Etre social. Souligne les autres services de santé fournis par le Ministère de la Santé nationale et du Bien-Etre social et par les diverses provinces. Énumère les services mis à la disposition de la population et le travail accompli par des organismes bénévoles de santé. Mentionne les systèmes d'assurances en force dans les industries, dans les villes et au sein de plusieurs groupements de citoyens à travers tout le pays.

Cite des statistiques sur les moyennes des dépenses faites dans les familles pour les services médicaux, dentaires et optométriques et déclare que les honoraires de médecins—peut-être à l'exception des spécialistes—ont que très peu augmenté depuis 1936.

Relève une assertion de M. Peters qui avait dit que les médecins donnent de meilleurs traitements aux personnes fortunées pour rétorquer que les médecins prodiguent gratuitement leurs services pour les personnes pauvres, pour examiner les écoliers et pour former les garde-malades dans les hôpitaux.

Déclare qu'il y a actuellement un médecin par 2,000 de population et que dans certaines régions rurales il n'y a qu'un médecin pour 5,000 ou 6,000 de population. Dit que le nombre des diplômés en médecine baisse d'une façon alarmante et qu'il faut en trouver la raison dans la crainte qu'ont les jeunes gens du contrôle de la profession médicale par l'Etat.

A. Brassard (L)

Appuie la résolution et déclare:

"J'aimerais que les taxes payées par la population de la province de Québec reviennent le plus tôt possible à cette province sous la forme d'assistance hospitalière . . .

Je crois donc que, très bientôt, la commission constituée par le gouvernement de Québec—ou qui le sera sous peu—étudiera la question d'hospitalisation dans le Québec et terminera son enquête avec une recommandation . . ."

Dr P. Vivian (PC)

Déclare que les patients souffrant de tuberculose et de dérangement mental, hospitalisés dans des sanatoria, tombent sous la

juridiction du gouvernement provincial avec qui on a transigé les implications financières dans les accords de Taxation Dominion-Provinces; souligne, qu'à l'avenir, l'hospitalisation prolongée de ces malades ne se produira plus, comme dans le passé, grâce aux méthodes modernes de traitement. Il dit que les provinces, si elles désirent se désister de leurs prérogatives dans ce domaine, pourraient songer à formuler des procédures pour ce faire graduellement.

Mentionne la nécessité d'éduquer la population en matière de santé et l'effort soutenu de publicité qui devrait accompagner et précéder la mise en acte d'un plan de santé; décrit les programmes de santé que les municipalités, par le truchement de leurs unités sanitaires, mettent à la disposition du public.

"Nous avons tous été profondément touchés . . . par la narration de faits . . . au sujet de personnes dont les épargnes de toute leur vie avaient été annihilées et qui avaient beaucoup souffert à cause . . . de maladies graves et longues . . . Il serait peut-être . . . désirable de songer à établir un système d'assurance additionnelle du genre "catastrophe," sous l'égide totale ou partielle du gouvernement, pour éviter que ces gens consacrent toutes leurs économies au traitement d'une maladie longue et pénible."

Mentionne le problème urgent des services des dispensaires d'hôpitaux. "J'exprime le voeu que . . . les hôpitaux eux-mêmes, en collaboration avec la profession médicale, nous aident à trouver des moyens pour améliorer et compléter le travail des dispensaires d'hôpitaux . . ."

M. H. J. Robichaud (L)

Souligne qu'on devrait songer sérieusement à inclure dans la Loi d'Assurance-Hospitalisation et des Services Diagnostiques les services dentaires et optiques. Demande au gouvernement d'amender la loi de façon à ce que la dépréciation et les intérêts soient compris dans les taux chargés pour chaque jour d'hospitalisation aux malades, de façon à ce que les municipalités et les ordres religieux soient portés à construire pour répondre au besoin d'un plus grand nombre de lits.

Dr H. M. Horner (CP)

Déclare que les services psychiatriques d'un hôpital général et que les services de chirurgie pour les tuberculeux sont déjà couverts d'après les clauses de la Loi d'Assurance-Hospitalisation et des Services Diagnostiques.

Croît que le Canada n'est pas encore prêt pour un système complet d'assurance-santé. Il parle de la pénurie de lits dans les hôpitaux et suggère, pour aider à solutionner ce problème, de construire de petits hôpitaux, à la périphérie des grandes villes.

Dit qu'avant d'établir un plan complet d'assurance médicale qui donnerait un bon rendement, il faudrait entraîner un personnel plus nombreux dans le domaine psychiatrique, chez les infirmières et chez les techniciens.

"Il y a partout au pays des organismes bénévoles formés de personnes qui s'intéressent à la question de santé; quelques-uns d'entre-eux sont patronnés par des groupes ou des associations provinciales de médecins. Ces organismes font un excellent travail. Il serait peut-être bon, au cours d'une telle discussion, de se demander si ces organismes pourraient exécuter une meilleure besogne, s'ils recevaient l'aide du gouvernement pour s'occuper complètement de toutes les personnes de leur localité..."

"J'espère, qu'en établissant un système national de santé pour tout le Canada, on tiendra compte de l'esprit qui règle actuellement l'exercice de la médecine dans notre pays. Il faudra placer les assises de ce système, quel qu'il soit, sur l'omnipraticien; on doit à tout prix tenir compte de ses intérêts, car il joue un rôle important dans le domaine de la santé des Canadiens."

Remarque que la loi devra prendre en considération la perte de revenu que devront subir les assurés à cause de maladie.

M. C. W. Carter (L)

Demande au gouvernement de placer les malades mentaux dans des sanatoria, en vertu de la Loi d'Assurance-Hospitalisation et des Services Diagnostiques.

"Le problème des maladies mentales ne diminue pas en importance: au contraire, il s'accroît et coûte tous les jours de plus en plus cher. L'écart qui existe entre les maladies mentales et les maladies physiques se rétrécit continuellement. La lacune la plus considérable, et c'est la tragédie la plus aiguë de tout ce problème des maladies mentales, se trouve chez les enfants qui ont le malheur d'être atteint de cette maladie: nous n'avons pas d'endroit convenable pour les traiter."

M. M. W. Martin (CCF)

Déclare, en parlant de cette partie de la résolution qui traite des soins dentaires:

"Je crois que les rapports venant des associations dentaires montrent que... un des besoins les plus urgents de ce pays (consiste) à avoir des services dentaires supérieurs à ceux que nous avons présentement... Je déclare (ces choses) pour déplorer l'attitude que nous avons toujours prise en face des services dentaires prodigués à notre population et le peu d'intérêt que nous avons accordé à ce problème dans le passé."

Dr O. H. Martin (CP)

Soumet au dossier plusieurs items tirés de la déclaration de politique faite en 1956 par

L'Association dentaire canadienne sur la question d'assurance-santé.

Discute des divers systèmes d'assurances dentaires, privés et publics, mis à la disposition des Canadiens et décrit quelques plans fonctionnant aux Etats-Unis.

Hon. P. Martin (L)

Demande au gouvernement d'appuyer la résolution.

"Je crois que votre objectif, à cette heure, dans tout le pays—et je suppose que c'est l'objectif de tous ceux qui siègent à la Chambre—est d'avoir comme principale préoccupation que tout individu de Canada puisse recevoir, peu importe les circonstances financières présentes, les meilleurs traitements possibles de médecine, de chirurgie dentaire et d'optique. C'est là notre but. Il serait difficile à quiconque de soutenir cette thèse, qu'en ces jours de progrès social tous ceux qui en ont besoin ne pourraient pas dans ce pays bénéficier des avantages de la science médicale."

"Il ne faut pas que le Gouvernement fédéral pose des gestes qui pourraient être jugés d'une façon ou de l'autre comme un empiètement sur l'autonomie, la responsabilité ou la juridiction des provinces. Tout ce que peut faire le gouvernement fédéral et ce parlement, c'est de faire des offres aux provinces; les provinces, selon leurs besoins, peuvent accepter ces offres, si elles jugent qu'elles sont capables de les mettre en acte et si elles désirent soulager leurs besoins."

Souligne qu'au cours de la Conférence fédérale-provinciale de 1958, quand fut discutée la question des prestations pour les tuberculeux et les malades mentaux dans les sanatoria, le gouvernement stipula, tout en suggérant que la chose était possible, que les argents versés par le gouvernement fédéral dans ce but seraient soustraits des subventions versées aux provinces selon l'Accord Fédéral-Provincial sur la Taxation.

Déclare que toute addition faite au plan actuel d'Assurance-Hospitalisation ne devrait rien changer aux rapports qui existent depuis toujours entre le patient et son médecin.

Fait une revue des Octrois Fédéraux de Santé, que ont été constitués avant la loi du Plan d'Assurance-Hospitalisation.

"Les Octrois Fédéraux de Santé sont une des principales réalisations de ce programme, parce que... l'unité sanitaire est une des phases fondamentales de l'organisation de la lutte contre la maladie et de l'élaboration d'organismes sains chez les Canadiens. Les unités sanitaires se sont répandues partout dans le pays grâce aux millions de dollars provenant d'octrois du gouvernement fédéral pour la santé publique."

Dr Joseph Slogon (PC)

"Il fait considérer trois facteurs quand on

parle de santé dentaire: l'éducation, la prévention et les traitements . . . Ce qu'une société peut réaliser en fait d'éducation, c'est de montrer à la population de prendre soin de ses dents de façon à diminuer la nécessité de les faire traiter."

Dit qu'avant que le gouvernement n'établisse un plan d'assurance-santé, il faudrait qu'il songe à d'autres mesures excellentes, telle la fluoration.

M. Charles Richard (PC)

Déclare qu'avant d'élargir les clauses de la Loi d'Assurance-Hospitalisation, il faudrait que toutes les provinces acceptent le plan.

La Croix-Rouge patronise des cliniques dans le Nord

La Croix-Rouge Junior finance des traitements dentaires dans le nord de la Saskatchewan pour les enfants qui vivent dans des régions situées à de grandes distances des cabinets dentaires les plus proches et retranchées des grands centres durant la plus grande partie de l'année. Dans ces cliniques, on traite aussi les cas d'urgence des adultes, qui autrement ne pourraient pas se faire traiter.

On se sert d'équipement qui a été donné ou acheté et qui a été installé à des endroits convenables à Cuberland House et à l'Île à la Crosse. Plusieurs dentistes ont bénévolement offert leurs services et on les a transportés par air ou par eau. L'Exécutif de la Croix-Rouge Junior a établi un budget pour couvrir les dépenses durant cinq ans. Le docteur A. E. Chegwin est le conseiller dentaire de cette entreprise.

La compilation des traitements donnés à date indique que les principaux objectifs ont été atteints. La santé dentaire des enfants, surtout des Métis, s'est considérablement améliorée et ces enfants et ces adultes semblent apprécier ce qu'on fait pour eux, car ils se présentent nombreux à ces cliniques.

Une clinique du printemps 1959 a traité 160 enfants et chaque patient a coûté la somme de \$6.47. Le coût d'un autre groupe, soit 156 enfants, s'est chiffré à une moyenne de \$6.63. Les enfants se sont conformés aux principes d'éducation dentaire et aux conseils de diète qu'on leur a inculqués.

Le projet de cinq ans se termine en 1960. On espère qu'il pourra se continuer.

Parution des "Nouvelles" de l'ADNE

L'Association dentaire de la Nouvelle-Ecosse vient de publier la première livraison

des "Nouvelles" de l'ADNE et cette publication vient s'ajouter avec bonheur aux autres imprimés donnant des nouvelles dentaires au Canada.

Ce feuillet mimeographié de quatre pages sera publié, selon les mots du rédacteur, le docteur John E. Merrett, et du président du Comité de publication, le docteur George M. Dewis, "à des intervalles à peu près réguliers".

Le NADL s'oppose aux denturistes

L'Association nationale des Laboratoires dentaires des Etats-Unis, à son congrès tenu à Miami récemment, a adopté une résolution pour condamner comme étant préjudiciable à l'intérêt public les tentatives d'individus qui n'ont pas les qualifications et l'entraînement nécessaires d'obtenir le droit de traiter directement la population dans le domaine de la prothèse dentaire.

Cette résolution est la même qu'a adoptée le Bureau des Délégués de l'Association dentaire américaine, en septembre dernier.

Fédération dentaire internationale—Membre de soutien

Les réalisations de la Fédération Dentaire Internationale reposent sur le nombre des membres de soutien. Quelques 60 organismes nationaux, au nombre desquels on compte l'Association dentaire canadienne, paient une cotisation annuelle qui aide à défrayer les dépenses du secrétariat et une partie du travail de la Fédération, mais ces sommes ne sont pas suffisantes: les membres de soutien fournissent réellement les moyens à la Fédération d'accomplir sa besogne à l'échelle internationale. Le monde est de plus en plus petit et nous vivons plus rapprochés les uns des autres. Ce qui se passe dans un pays aujourd'hui nous influencera demain. La F.D.I. sert de médium d'échange entre nous. De plus, la F.D.I. nous représente à l'Organisation Mondiale de la Santé.

Les membres de soutien reçoivent le Journal de la Fédération Dentaire Internationale et les Lettres de Nouvelles qui les renseignent sur tous les agissements de la profession dentaire du monde entier. Quelques pays comptent jusqu'à 75% de leurs dentistes qui sont membres de la F.D.I.

En 1959, le Canada n'avait que 36 membres. Tous les membres de l'Association dentaire canadienne peuvent faire partie de la F.D.I. On fait parvenir sa cotisation au docteur Don W. Gullett, trésorier national de la F.D.I., 234 St-Georges, Toronto 5, Ontario.

La réunion du Conseil des Gouverneurs

Le Conseil des Gouverneurs de l'Association dentaire canadienne s'est réuni, à Ottawa, en septembre dernier, comme il le fait chaque année, dans une ville ou une autre du Canada.

Ce Conseil des Gouverneurs groupe les délégués des dix provinces, les présidents de comités, les rédacteurs du Journal, les officiers de l'Association et tous les membres de l'Association qui désirent assister à cette assemblée. La réunion dure environ quatre jours au cours desquels sont discutés les problèmes de l'heure de la profession. Ces problèmes ont été auparavant étudiés durant toute l'année par des comités chargés de questions particulières et ces comités présentent des rapports aux gouverneurs; ces compte-rendus font l'objet des discussions.

Ces études faites par tout le pays par des groupes de dentistes soucieux du bien-être du public et de la profession reflètent l'esprit qui règne dans les milieux dentaires qui pensent et qui cherchent des solutions. On peut synthétiser en une phrase les principales préoccupations de la profession dentaire en 1960: *Les effectifs de la profession dentaire diminuent; la population augmente; le peuple canadien demande plus de traitements.*

Les dentistes canadiens ne peuvent plus suffire à la tâche. Surtout dans certaines régions du pays. Des gouvernements provinciaux s'émeuvent et adoptent des législations, qui paraissent amener un soulagement immédiat, mais qui, en définitive, sont au détriment de la population. Des techniciens, compétents ou non, offrent de traiter les gens et des oreilles sympathiques les écoutent. Des confrères profitent de cette pénurie de disponibilités pour des soins pour augmenter leurs honoraires. Les députés sont alertés; les techniciens (denturistes) jubilent.

Quelle attitude prend l'Association en face de cette situation très grave, très grave?

Organisation d'une vaste campagne de recrutement à l'échelle provinciale secondée par un comité central qui étudiera les causes de la baisse du nombre des étudiants et les remèdes à y apporter.

Formation de personnel auxiliaire, *sous l'égide de la profession dentaire* pour l'aider à traiter plus de gens à meilleur compte, le dentiste se réservant pour des tâches essentielles. Comme les médecins qui confient à un personnel subalterne l'accomplissement de certaines fonctions plutôt techniques (infirmières, tech-

niennes, etc). Impulsion donnée aux recherches pour prévenir des maladies et trouver des méthodes de les traiter plus efficacement et plus rapidement.

Elaboration de systèmes de paiements pour les honoraires dentaires de façon à ce que les patients se fassent traiter quand ils en ont besoin et ne remettent pas à plus tard (pour motif pécuniaire) et risquent de souffrir de dérangements majeurs. Etude de plans d'assurances pour les soins dentaires, comparables à ceux qui existent déjà dans le domaine médical; mise au point d'un plan-modèle qui devrait fonctionner sous peu.

Considération accordée à des projets pour traiter des groupes d'individus (syndicalistes, unionistes, etc) à meilleur compte grâce à des contrats collectifs. Prise de position de la profession en face de projets des gouvernements en faveur de lois sociales qui peuvent influencer les structures mêmes de notre organisation professionnelle (assurance - santé, assurance-hospitalisation, assistance médicale et dentaire à certaines classes de la population).

Organisation des rouages de l'Association pour répondre aux exigences modernes de l'économie, des sciences statistiques, des complications légales.

Voilà les grandes lignes des délibérations de l'A.D.C. qui se sont déroulées à Ottawa, cette année. Les décisions qui y ont été prises manifestent plus de sûreté, plus de maturité de la part de ceux qui étudient les problèmes. La profession dentaire est certes à un tournant de son

existence, mais l'expérience acquise au cours des vingt dernières années est un gage qu'elle passera le cap plus vigoureuse et plus considérée.

D'autres questions ont retenu l'attention des Gouverneurs, mais elles sont de moindre importance; elles sont, pourrait-on dire, de routine. Néanmoins ces domaines constituent la vie de l'Association et chacun de ces champs d'action intéressent le dentiste canadien. On note, par exemple, que le Canada joue un rôle de plus en plus considérable dans les affaires dentaires internationales et que quelques-unes de ses décisions ont été copiées à la Fédération dentaire internationale. On remarque aussi des initiatives encourageantes du Conseil d'Enseignement dentaire qui envisage pour un avenir pas trop lointain, la fusion des examens des facultés dentaires canadiennes avec celui du Bureau national d'Examen dentaire. Encore un pas et seront abolies ces barrières imaginaires qui séparent les provinces au point de vue exercice professionnel!

Il serait trop long de mentionner toutes les décisions qui ont été prises par l'Association. Contentons-nous de dire que la réunion de 1960 a été une des plus fructueuses de l'histoire de l'A.D.C. et avec son secrétaire, le Dr Gullett, "qu'elle a été celle qui a abattu le plus de besogne".

Les Délibérations qui paraîtront bientôt nous renseigneront sur les détails de cette assemblée 1960 du Conseil des Gouverneurs de l'A.D.C.

GÉRARD de MONTIGNY.

The Canadian Dental Association

JOURNAL

Volume 26

Number 12

Toronto

December 1960

Should Dentists Shun Hypnosis?

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INTRODUCTION

Hypnosis has been a subject of increasing general interest as a result of recurring and encouraging reports of its effectiveness as a pain-relieving agent in the healing world. Those who doubt its value or effectiveness have only to refer to the reports of the British Medical Association and the American Medical Association committees on the subject, published in 1955 and 1958 respectively. Both committees state that not only is hypnosis of value, but it may be the treatment of choice in many cases. The two commit-

tees further state that hypnotism is of considerable value in dentistry.

Why then do we not embrace hypnotism with the same ready eagerness that characterized the medical profession's acceptance of penicillin or the Salk vaccine? The answer, of course, is that hypnotism is befogged by more confusion than has surrounded almost any other subject in history. It is difficult to say who has been most responsible for this confusion.

Two thousand years ago Greek priests used hypnosis for healing, and it has certainly been in widespread use, off and on, ever since. Yet the modern healing professions, until very recently, have

shown an Olympian disregard for the whole subject. Despite the B.M.A. and A.M.A. reports, hypnotherapy is not being taught in any Canadian dental school today.

This attitude toward hypnosis by the healing professions has been communicated by them to the public. When a physician tells Mrs. Brown that hypnosis is no good and may be actually harmful, she is apt to believe him and repeat his opinions which she would consider to be authoritative and correct.

The public has been further confused by writers, especially those of the Victorian and Edwardian eras, who depicted hypnotists as men with the gift of the evil eye, practising an art akin to black magic.

Finally, stage hypnotists with a merry pass of the hands have led public opinion to the conclusion that hypnotism is something like Harry Houdini's famous escape tricks: you cannot see how it is done, but it is all a fake.

What a compounding of misinformation! No wonder hypnosis, an honoured means of healing for thousands of years, has been neglected. No wonder those who would raise it to scientific stature, as it deserves, are largely ignored. Yet hypnosis, used in conjunction with modern knowledge of psychology, can be a very useful scientific tool. The writer has made considerable use of it in a large Toronto dental practice with complete success. This paper emerges from that experience. Its contents have not been gleaned from other people's observations but from the writer's own experience.

DEFINITION OF TERMS

First, let us define the words we shall use. "Hypnosis", for instance, has a number of meanings, the broadest of which includes the type of interpersonal relationship which occurs in salesmanship, love and similar phenomena, as well as the better known form of hypnosis in the trance state. It is the writer's contention that "trance" and "hypnosis" are by no

means synonymous as will be shown. In this broad sense, a hypnotic relationship has been achieved when the individual's attention has been gained. He is likely to be very greatly influenced and will perhaps act on any suggestion that he feels to be to his advantage. Whether he is sceptical or not does not influence the power of these suggestions. A hypnotic relationship in this broad sense may be deliberate or accidental, for benefit or harm. There is always a strong personal involvement.

A hypnotherapeutic relationship, has a narrower meaning: it is one in which the individual's attention has been gained for the purpose of changing his psychological or physiological processes so that he may think and act and feel in a manner that will make him more comfortable with himself.

A trance is a condition somewhat like a daydream, but it is not necessarily hypnosis. The trance merely places the individual in a position to be receptive to a communication from another individual.

Alternatively, the trance, in auto-hypnosis, enables a person to concentrate more intently on his own thoughts.

Trance then, is not in itself hypnosis. It is a state of relative and selective inattention. By selective inattention is meant that focal awareness is controlled so that what does not make sense in terms of the particular individual's self organization needs to get no attention, and, conversely, what does make sense gets all the patient's attention. Selective inattention and selective attention go hand in hand.

In a deep trance, the individual's capability of selecting what he wants is intensified, to the point that unwanted stimuli, for practical purposes, cease to exist. A light trance is a condition in which the individual has some capacity for selecting what he wishes to be aware of, but has more difficulty in tuning out extraneous stimuli. Because of this, his ability to respond to the stimuli he chooses is not as good as it would be if he were in deep trance.

Suggestibility is a term often heard in

relation to hypnosis. It has been said that hypnosis is a heightened state of suggestibility. Whether this is true or not, it is safe to say that we are all suggestible, and it is to the extent that we have this characteristic that we are capable of responding to an idea. Response is better if a person understands the purpose of it, so that his intelligence is involved. He also responds better if he feels that his own interests are being furthered. Thus his powers of discrimination are also involved.

To achieve its maximum effect, a suggestion must offend neither the subject's sense of logic nor his dignity as an individual.

Thus, for purposes of hypnotherapy, the subject is led into a trance state by teaching him to focus all his attention on stimuli coming from the hypnotherapist. While a patient can enter a trance without his own awareness of it, this condition can only be utilized if the patient's consent has been obtained, either by implication or directly. By hypnotherapy, a physician or dentist seeks to make a patient more comfortable — perhaps by the removal or alleviation of a particular ailment or problem. The avowed purpose is to enable the patient to acquire new understandings of his experiential learning, to obtain a better grasp of his reality situation and to think more correctly.

Hypnosis is a new and youthful science from the viewpoint of modern methods and experience. Methods and procedures have changed in the last two decades. In this new orientation the change was from the simple and direct suggestion and commands, toward an explorative, investigative, re-educative procedure¹ utilizing the concepts of psychosomatic medicine and the concepts, too, developed in psychiatry and psychology.

Within the framework of this modern view of hypnosis, every physician and dentist uses hypnosis, whether he intends to or not. In fact, every professional arrangement is bound to contain the elements of hypnosis. This becomes clear when it is understood that hypnosis be-

gins when the subject's attention is gained. The subject may then be led into a deeper trance state, in which it is easier to hold his full attention—but hypnosis is not dependent on the deliberate production of trance.

The forces within the patient, not forces exerted by the hypnotist — are responsible for the changes and the beneficial effects that can be obtained through the intelligent use of hypnotism. The hypnotist merely mobilizes these forces. In the hypnotic state the patient can produce changes in his biological and psychological functions which heretofore were considered outside of his control. It is this increase of CONTROL by the patient that is the most important factor in hypnotherapeutic treatment. The hypnotic experience makes the patient aware at last of the tremendous control he has over his innermost processes.

EFFECTS OF HYPNOSIS

The exact effect of hypnosis can best be explained in the following way. An individual perceives the external world in line with his particular tendency to perceive and interprets in accordance with his total background of understanding. This tendency is different in each individual according to his own personality pattern. Every human being uses his senses and powers of reasoning as well as his emotions, none of which are perfect, to arrive at a conclusion about himself, about others and about life in general.

Each individual, for reasons of psychological and physiological economy, and to increase his effectiveness as an individual, develops a typical way of doing things, a personality pattern, or life-style. Hypnosis, therefore, consists of an interpersonal relationship in which the operator changes or restructures the perception and cognition of the subject. It is almost as if the subject can now look at life from a different window.

It is a natural phenomenon, as natural as eating or sleep. No one is immune. We

see it in love. When a young man falls in love he does indeed see the world from a different window, for he is influenced in his outlook. In a similar way, a salesman can influence a customer to look at things differently. A confidence man can bring about a change in outlook even in a respectable and astute businessman. A teacher influences a pupil. And, as a final instance, we are influenced by grief, as in the case of a death in a family.

There is always an element of the interpersonal relationship in hypnosis — even in auto-hypnosis (self-hypnosis). In the latter case the person himself learns to treat himself and his problems objectively while in a trance — almost as if he were two people. Thus, he leads himself and maintains the peculiarly interpersonal relationship of hypnosis — even when he is hypnotizing himself!

A THERAPEUTIC TECHNIQUE

It must be clearly recognized that hypnosis is a technique — not a method of treatment in itself. It acts as a catalyst, speeding rapport between hypnotist and his subject. It can be applied as a tool to aid any form of psychotherapy. It may assist in a diagnosis and in cases where support, reassurance or advice are needed these become much more effective when hypnosis is used. Improvement in the inter- and intra-personal relationship is more important than some dramatic hypnotic phenomena which stage performances may have led us to expect.

Today, living and working conditions are becoming much more complex and, as a consequence of great technical advances, fierce competition, irresistible drives and other great stresses, we have been beset with new fears, doubts, problems and pressures, to which it is difficult, if not impossible, to adjust ourselves without expert assistance. Upon the health professions has devolved the responsibility and duty of doing something about it; and the recognition and assumption of that responsibility has not been refused.

The modern approach to a patient is

based upon a consideration of his emotional as well as his physical condition. It is predicated upon the concept that a unified view be taken of the patient — that physical ailments affect the patient's emotional life and emotional disturbances have repercussions on his physical condition. Thus, the diagnosis and treatment must consider the complete personality as well as the person of the patient.

Treatment of a patient for a psychogenic disorder by a psychiatrist is designated as psychotherapy. Similar techniques used by a dentist incidental to the dental service required from him, may be designated as dental psychotherapy. The dentist who employs dental psychotherapy is attempting to solve a particular psychogenic problem which affects the mouth, such as gagging. If, in dealing with this particular problem, he should improve the patient's total personality that is an incidental benefit but not an intended one. The psychiatrist on the other hand, when he employs psychotherapy, is seeking to alter the patient's total personality. If, in changing the patient's personality for the better, he also eliminates the gagging, that is an incidental benefit but not an intended one.

There is thus good reason for both disciplines to practise psychotherapy. Whether they admit it or not, of course, both use hypnosis too. The psychiatrist's couch carries an intrinsically hypnotic connotation and psychoanalysis has been called with justification "slow motion hypnosis."

Many people fail to receive dental treatment because they cannot bring themselves to go to the dentist or — having made the visit — they are quite unable to submit to treatment. Their lot has been an unhappy one for years but, by using hypnotherapy, the dentist is nowadays able to treat them without difficulty and with success. Young children, whose fear of dentists has been a cause of great concern to parents, no longer present a serious problem to their dentist, if he is able to employ psychotherapy.

Hypnosis in dentistry has value in a number of ways. It establishes a meaningful patient-dentist relationship. It can be used to tranquilize or relax a patient, achieving an infinitely higher plane of relaxation than that attainable by the average nervous patient. Relaxation and release from nervous tension by themselves raise the pain threshold but in some cases complete surgical anaesthesia may be obtained through hypnosis.

Though hypnosis can be used in dentistry as an anaesthetic or analgesic, in the author's practice it has not been so used. One reason is that relatively few people can be hypnotized deeply enough to achieve surgical anaesthesia without extensive training. Another reason is that light hypnosis will usually be sufficient to permit the use of the more convenient standard methods of anaesthesia. However, when a patient objects to ordinary anaesthetics because of allergic reaction, physical condition, moral scruple, or when drugs are unavailable, hypnosis may prove to be the answer. It may be used either as a substitute for, or in conjunction with, drug therapy. For selected patients, hypnosis may be the technique of choice for the removal of any psychogenic disorder which interferes with the proper carrying out and successful conclusion of dental treatment.

Hypnotherapy has proved a safe, efficient and practical means of alleviating undue anxieties and apprehensions from which many patients suffer. Yet this does not mean that all patients require hypnotherapy. In the author's own practice most patients have no need for hypnotherapy. Nevertheless, all patients are asked in a questionnaire whether they would welcome the use of hypnotherapy. We have found only one patient (0.2%) who seriously objected and, furthermore, was averse to being treated by a dentist who practised hypnotherapy. About 40% indicated that they would welcome the technique; 20% indicated that they would have it if necessary; and 32% replied either that they did not believe they

needed it or that they preferred not to have it. Those in the latter group were not so definite that some among them might not have changed their minds if persuaded that hypnosis could help them; 8% did not answer the question mostly because of language difficulty.

One patient, for instance (and this is fairly typical of a class), was averse to hypnotherapy at first. She intimated she did not want anyone else to control her mind. It was explained that hypnotherapy could help her control her tendency to panic when faced with dental treatment and that no one would control her mind. At first she refused to co-operate but when her severe panic reactions continued she changed her mind and asked us to initiate hypnotherapy. This we did, and a tape recording made after treatment is enlightening. This patient admitted she had been entirely misled about hypnotherapy, that she had never lost control of her own mind and that she would never again hesitate to seek it when the necessity arose. She said she regretted not having taken advantage of it sooner.

Panic reactions and gagging are typical of the problems that can be dramatically helped by hypnosis. One patient in our experience lost all her teeth because she gagged so severely that no dentist could operate inside her mouth. Even with all her teeth gone, no solution had been found, for she could not put a denture into her mouth. Indeed, she could not even have impressions taken. She was treated by hypnotherapy and learned to overcome her gagging problem. Now she is able to use dentures successfully and comfortably. Had she been treated sooner, her natural teeth might have been treated and saved.

SAFETY

In carrying out hypnotherapy in more than 500 patients the author has not found a single case indicating the slightest difficulty due to hypnosis. He considers hypnosis is one of the safest techniques in

clinical practice. Despite this, it must be pointed out that it should be employed only by persons with training in the psychodynamics of behaviour. It cannot be used effectively unless the hypnotherapist understands what he is doing within the framework of psychology. The use by a dentist of either hypnosis or psychotherapy without the necessary qualifications should be strongly deprecated. At the same time it should be emphasized that individuals who have been able to qualify themselves in dentistry or medicine are certainly capable of doing so in the use of hypnotherapy and other psychotherapeutic procedures, provided they are prepared to spend the necessary time and make the necessary effort. Many dentists who are using these techniques are well qualified to do so.

Warnings relating to the use of hypnosis by the so-called "unqualified" dentist have been published in the literature. Fortunately dentists using the technique are frequently well qualified, even though there is as yet no formal academic training available in Canada. In the writer's opinion any "unqualified" person offering potentially dangerous services to the public should be prohibited from so doing by legislation. It is further respectfully submitted, in the public interest, that dentists and professional colleagues in other fields of healing might well be advised to refrain from making remarks that might implant unfounded fears in the public mind. The observance by dentists of their existing Code of Ethics will be ample safeguard for the public as well as the profession.

It is hoped that dental schools will be encouraged to amend their curricula to include hypnosis and the necessary psychotherapeutic training. James Braid, the father of modern hypnotherapy, wrote in 1842, that "the medical man who has not studied the laws of the mind as well as matter, and how they act and react on each other, is very unfit for practising his profession, either with credit to himself or

advantage to his patient. Let such an individual only attend to these studies and the advantages will soon become apparent to both himself and others."

CONCLUSIONS

1. Despite the fact that hypnotherapy has proved to be a safe, efficient and practical means of alleviating undue anxieties and apprehensions in dental patients, the use of hypnotism in healing remains clouded by misconceptions.

2. Hypnosis is a technique and not a method of treatment. It has been effectively used as the technique of choice for the removal of many psychogenic disorders which interfere with the proper carrying out, and the successful conclusion, of dental treatment.

3. Hypnotherapy should be employed only by those with training in the psychodynamics of behaviour. The definition of the word "qualified," however, is open to debate.

4. Hypnotherapy establishes a meaningful patient-dentist relationship vital in therapy. Hypnotherapy, however, should be used with discretion.

5. Hypnosis begins when a patient is ready to listen and believe — therefore it is used by every dentist. What is used unknowingly could be used with much greater benefit if used knowingly and skillfully.

6. Undergraduate dental training might include to advantage instruction in the important subjects of hypnosis, psychology and psychotherapy.

7. Hypnotherapy has been shunned in the past by many members of the healing professions. It deserves to be studied and used to the fullest extent.

Anterior Root Canal Obliteration by Gutta Percha And Silver Points

BENJAMIN SEDLEZKY, D.D.S., B.Sc., Montreal, Quebec

For some reason dentists are reluctant to use silver points in the filling of anterior root canals. There seems to be no hesitancy in using silver points for posterior teeth, but in the twelve anterior teeth, gutta percha is used for the filling of these canals.

A possible explanation may lie in the fact that endodontic treatment is often performed on anterior teeth with large class three cavities and restorations, and due to the lingual opening to the pulp chamber, these teeth become fragile and very often fracture, necessitating a post and crown. Thus it seems easier to remove a portion of the gutta percha filling to accommodate a post. But this may not be as simple as it appears for the following reasons: 1. The whole gutta percha filling may be dislodged and/or removed and, 2. since there is not much difference between the colour of gutta percha and dentine inside the canal, the post preparation may easily be directed laterally with subsequent weakening or perforation of the root. Furthermore, in order to seal the canal effectively, multiple gutta percha points must be laterally condensed. If done zealously, this may result in extrusion of the trial point through the apex, but, if done haphazardly, underfilling of the canal results. Since good lateral condensation requires a fair amount of skill and experience, underfilling with a single

gutta percha point floating in a sea of sealer is a likely end result.

For these reasons the silver point technique should be re-examined. There can be no doubt that in the great majority of cases where anterior root canals are to be sealed, a silver point can be more accurately fitted to the canal. The silver point, because of its greater rigidity, maintains its length and shape with manipulation. Now that the manufacturers are attempting to produce their files, reamers and silver points to closer tolerances, the proper silver point can easily be selected after the last file. When a slight force is applied to the silver point, the point is rammed to place, the apical portion (or more) of the point is compressed slightly and it is with some difficulty that this point may be withdrawn. It may be argued that with a silver point tightly plugging the canal, the preparation of a post of proper length ($\frac{1}{2}$ to $\frac{2}{3}$ of root length) is made difficult. This is not so, if only the apical third of the canal is filled with a silver point. Detailed below is a step-by-step technique for filling the apical third of an anterior root accurately with a silver point.

The author recommends the following technique for the management of adult anterior teeth where persistent pathological periapical involvement may necessitate subsequent apical curettage or apicoectomy. This recommendation is based on



FIGURE 1

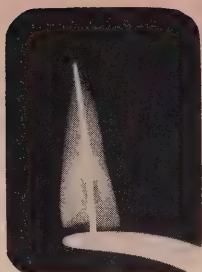


FIGURE 2



FIGURE 3



FIGURE 4



FIGURE 5



FIGURE 6

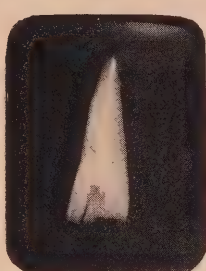


FIGURE 7



FIGURE 8



FIGURE 9

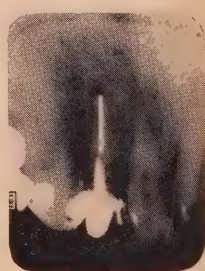


FIGURE 10

the conviction that a silver point sealed into the apical third of a root canal permanently obliterates that canal and can not be removed.

TECHNIQUE

1. Proper aseptic technique and proper mechanical and chemical preparation of the canal is observed. The canal must be smooth to the apex without shoulders.
2. The trial silver point must fit snugly in the wet canal to within $\frac{1}{2}$ mm. of the apex or to the apical constriction. (Fig. 1)
3. With the trial point inside the canal, the coronal end is grasped between the beaks of a small haemostatic forceps at right angles, the lower margin of the forceps resting on the incisal edge of the tooth.
4. The excess portion of the silver point extending above the top margin of the forceps is exactly cut off, using a separating disk. (Fig. 2)
5. The canal is dried.
6. The silver point is buttered with Kerr's sealer and seated to place with the forceps.
7. Because of lubrication, the point may now be seated a little deeper. This is visible in a radiograph and verified by the coronal end of the point being below the top margin of the forceps.
8. The overlength, if any, is corrected.
9. Due to compression of the point by the scissors, the apical end may be sanded

off to its original conical shape.

10. A second small haemostatic forceps is placed near the apical end of the point. (Fig. 3)
11. The point is cut between the two forceps at approximately $\frac{1}{3}$ from the apical end. (Fig. 4)
12. The apical point is rebuttered and inserted into the canal.
13. Using the remaining portion of the silver point as a plugger, the apical point is pressed home. (Fig. 5) The lower margin of the forceps must touch the incisal edge as before.
14. The coronal $\frac{2}{3}$ of the canal may now be obliterated with gutta percha points. (Fig. 6)
15. The coronal orifice of the canal is carefully sealed with a hot instrument to make the hermetic seal complete. (Fig. 7)
16. If a future post is necessary, it will be a simple matter to remove the gutta percha filling with heated reamers; the apical silver point will not be disturbed by this procedure. (Figs. 8, 9 and 10)

CONCLUSION

A method of sealing adult anterior root canals is presented. Because of its simplicity and accuracy, this technique may easily be adopted by the general practitioner. The author makes no claim for complete originality.

6206 Northcrest Place

Do It Yourself*

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I am going to assume that I am here as a representative of the man-in-the-street and that I have been given an opportunity to speak as a man-in-the-street to junior members of the dental profession. My theme is what the man-in-the-street can reasonably expect of you as professional men. I am afraid that I am going to be serious. It would, I believe, be a poor compliment to you, to attempt to be flip-pant on your last day as undergraduates of the University of Toronto.

One of the interesting phenomena of the mid-twentieth century is the tremendous spread and development of a social movement identified by the slogan, "Do It Yourself". This phenomenon has many facets, some of them good, some of them, in my opinion, bad. It takes its origin in two notable changes in our way of life—first the decrease in the number of hours per week the average citizen must devote to earning a living and the need to provide him with some kind of pleasant occupation, and second, the high cost of labour which makes it impossible for a young person with a low income to get certain things done unless he does them himself. In my younger days I did a great deal of painting, paper-hanging, shingling, cement-work, carpentry, and even some bad plumbing, not because time was heavy on my hands, but because it had to be done and I couldn't find the money to

pay a skilled workman. My friends in the labour movement would undoubtedly take a dim view of this activity in my past, but it didn't seem odd to me because all my ancestors — in Canada — were pioneer farmers, and although city-reared, I had spent several of my summers working on what I might call non-capitalistic farms where the farmer did his best to meet all his own needs. My generation is probably the last to have this experience and this outlook. I doubt that my sons will do in their own homes what I have until fairly recently done in mine. That is in the past. Nowadays "Do It Yourself" seems to mean "spend a great deal of money on supplies and equipment and you will be able to develop hobbies which will amuse you, keep you out of mischief, give you at least the illusion of creating something, and impose the minimum of strain on you." Some years ago, the son of a man I know well, then aged almost four and a devout believer in Santa Claus, asked the Saint at Christmas for only one present — a model of "The Trillium". "The Trillium" was a ferry which plied in the summer between the mainland of Toronto and the Toronto Island. His father, also a devout believer in Santa Claus, was obliged in winter weather to measure "The Trillium", frozen in its slip, make drawings of it, cut the parts out of bits of wood and metal, put them together with nails, screws and slow-drying glue, and paint the whole with slow-drying paint. It cost very little in money; it cost a great deal in time and thought, but the effort was thoroughly rewarding and the recipient of the ship, now twenty-two

*Address delivered to the graduating class, Faculty of Dentistry, University of Toronto, May 7, 1960.

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years old, preserves it as a sort of valued museum piece. He has never allowed anyone except himself to handle it. Years later when the third son of the same father asked Santa Claus for a model of a certain kind of ship, his father was able to buy an assortment of pre-moulded plastic parts, and quick-drying airplane cement and dope. They cost a great deal, comparatively, in money; the model cost little in time and nothing in thought — and the completed object was gladly accepted but quickly discarded. I cite this example to demonstrate that things are being made easier and easier for those who would “do it themselves”, at the expense of originality, ingenuity and creativity. The amateur painter who with tears and sweat created a landscape which was his own is now supplanted by the purchaser who buys a mass-produced sketch and fills in the numbered areas with numbered paints, and deceives himself into thinking that he has created something. In fact, “do it yourself” is rapidly coming to mean “let George — or somebody else — do almost all of it”, with, of course, financial profit for George. In some areas of activity this is to be welcomed. For example, it is a great convenience to a householder who has a very small repair job on his hands to be able to buy a small bag of cement mixed with sand. He thereby avoids waste. In many areas it is harmless. A model ship is not a very important item in our civilization and a do-it-yourself painting to which the painter has contributed nothing except a reasonably steady hand and the ability to read numbers is probably not inferior to a mass-produced print (unless, of course, it should happen to be a good print of a picture by a Rembrandt or a Velasquez). I would have little worry were it not for the fact that this change is already making itself manifest in the most important of all areas where people ought really to “do it themselves”. That area is thinking. Mass-produced facilities are being provided and many people who accept them deceive themselves into be-

lieving that they are well-informed and thoughtful.

Everybody knows that applied science and technology have radically decreased the amount of drudgery to which the more favoured portion of the human race is liable. Everybody knows that the number of hours per week for the average inhabitant of our small Western World has been reduced. Only a few individualists, however, have seriously considered whether the reduction of drudgery and the increase in leisure is a genuine asset to each of us individually and to what we call “our way of life”. Some of the thinking has been disturbing and in extreme cases it has evoked an angry reaction. I cite two examples only. Early last year the *Globe and Mail* of Toronto printed verbatim a substantial portion of an address given by the late Mr. James Muir, then Chairman and President of the Royal Bank of Canada, to the Vancouver Board of Trade. During the course of his address Mr. Muir made the following remark: “Somehow it has to be brought forcibly home to us that comparatively we are an indolent, pleasure-seeking, and soft section of humanity as opposed to the endlessly toiling, fanatical, ambitious and dedicated hordes in other lands.” The second example which I cite comes out of the past. Charles Kingsley, who died in 1876, wrote a fable about “The great and famous nation of the Doasyoulikes, who came away from the country of Hardwork because they wanted to play on the Jews’ Harp all day long. In the parable these improvident people who persisted in living a life of ease in an earthly paradise paid the penalty by degenerating into tropical African gorillas.” (Quoted by Toynbee, II, p. 29). In other words, the process of evolution was put into reverse.

Nobody in his right senses would argue that the reduction of the amount of drudgery to which human beings must submit is an evil. I would be the first person to claim that a decrease in the hours of the working week is a benefit, provided that freedom from toil increases

our ability to act as mature men and women rather than to play on the Jews' Harp all day long. There is no profit in engaging for long hours each day in hard manual labour just because millions and millions of men and women are doing so — as they are in China, for example. However, freedom has to be earned and justified; liberty always imposes responsibilities. And I venture to say that we must earn and justify our increasing freedom from long hours of labour; that we must assume the responsibilities which our new liberty inevitably imposes upon us. What, in fact, are we doing with our growing leisure?

MISUSE OF LEISURE TIME

I do not propose to attempt an analysis of our use of leisure because I lack the facilities for it. I offer one or two hints which may well be wrong; if they are wrong, you will dispose of them easily; if there is any truth in them, they will, I hope, stimulate you to thought. In general, I believe that we are exhibiting a strong predilection for the Jews' Harp. If you will examine any issue of the daily newspaper which you read, you will discover, I think, that the amount of space devoted to athletic sport, most of it professional or semi-professional, and almost all — if not all — of it sport which can be put in the category of "spectator-sport", greatly exceeds the amount of space given to political, economic and social news of real significance from the world outside Canada. This is a reflection of our interests. There is plenty of other evidence to show the true nature of our interest in athletics. If each of you will, year after year, buy season tickets for hockey or football, without taking any exercise at all, the chances are that when you die your obituary will pronounce you a "sportsman". Recently I heard, on television, an official of a well-known professional football club in Ontario say, in answer to a question "Well, after all,

football is a business" — Not a sport, mind you, but a business. We have recently witnessed the shocking revelation that the world's amateur hockey championship is held by a completely professional team. Does the amateur still exist — the athlete who plays the game himself and does so just because he loves it?

Drama is a great art and at least some of its values, if not all of them, can from time to time be achieved in the motion picture and in television. Miserable is the people which has no fully-developed drama. Athletics can be of great value to people who actively participate in athletics. But we tend to become passive observers rather than active participants. This is to say, we desire to be passively entertained rather than to engage in activity which requires thinking or effort of some other kind. This is, I believe, what Mr. Muir meant when he accused Canadians of being "indolent, pleasure-seeking and soft", and what Kingsley was referring to in his parable of the Doasyoulikes who deserted the country of Hardwork to play on the Jews' Harp.

CONSTRUCTIVE USE OF LEISURE TIME

There are many kinds of reputable activity which are thoroughly rewarding in themselves and in which a man or a woman can take pleasure and pride even if they bring no financial return. In fact, a man is something less than a man if he does not devote at least a portion of his leisure to some of them. Among them I put thinking in first place. It is the most difficult of all human activities; it is the most characteristically human activity; and it is, on the whole, the most rewarding of them all, with the possible exception of the creation of works of art. Some of us are naturally better at it than others, but as human beings each of us has some capacity for it.

Although clarity and depth in thinking are important for any nation or any people, we, as Canadians are in a position where they are of exceptionally large

importance. Canada has, as of now, an important role to play in the world, for which it is potentially well-fitted. It has become a large power without being one of the so-called Great Powers. It has to a large extent avoided the suspicion which is attached to the motives of other powers. It has, for example, never engaged in imperialism. The influence which it can exert is tremendous and if properly applied it could result in a greater measure of peace and happiness for everyone. The extent to which it can carry out this role, and the extent to which it can be worthy of itself, depends in large measure on the extent to which individual Canadians, such as you and I, can adapt the practices of the do-it-yourself movement to thinking without the vices and weaknesses which those practices exhibit in other areas. If we don't do our own thinking it will not be done, because, to use the metaphor of a wise old colleague of mine, "no hen can help another hen to lay an egg".

There are so many areas in which Canadians must do some thinking that there is one for every taste. I can give you only a sample. I begin with a favourite example. When the crisis over Suez occurred a year or two ago, everybody I talked with had a very definite opinion and knew exactly what should be done. All the opinion I heard was based on prejudice or ignorance or both. How many of you have any reliable knowledge about the Near and Middle East? How many of you have ever done any really hard thinking about the Near or Middle East? There is a Chinese government in Formosa and another at Peking. Which, if either, should be recognized as the Chinese government? What are the rights and wrongs of the South African policy of apartheid and is this policy likely to conduce to peace, prosperity and happiness? What would represent a satisfactory solution of the division of Germany into two sections? What portion of the Canadian budget should be devoted to research in pure science? Should we love the Americans and accept the policy of the U. S. govern-

ment or should we endeavour to promote a pure Canadian nationalism? What should we do about juvenile delinquency? How should the dilemma of greatly increasing wealth plus unemployment be solved?

What right, if any, have trade unions, now grown so powerful, to influence Canadian economic policy? What rights does a Canadian communist possess? I suspect that some of you have never thought about these fundamental questions which I have selected almost at random. Others of you would have some immediate answer, but how many of them would be able to declare with sincerity that their answers are based on wide knowledge and even a minimum of hard and independent thinking?

The "do-it-yourself" movement has provided you, even in these important areas, with materials which have been created by someone else and provided for you at a price. There are the "Digests" in which someone has carefully selected what you should read and decided what portions of the original should be available for you. There are the news magazines in which someone else has carefully chosen what should be laid before you and what, presumably for your own good, you should be induced to believe. There are picture-journals in which carefully selected entertainment is provided for you. There are clubs to which you may subscribe and to which you are encouraged to subscribe by tempting bargains which will select for you, if you will let them, the books which you should read each month and the recorded music to which you should listen. Technically superb programs are brought by radio and television into your homes, and even if you have a choice of stations or channels, the programs are organized by someone else and you really have very little choice. Much of this literature and sound and many of these pictures originate beyond the boundaries of your own country; the original selection has been made by people who are not even your compatriots. This may be a good thing and it may not. It is extraordinarily difficult to remain independent and stand against the flood, to be able to discrimin-

ate between what is true and what is merely prejudiced or profitable (to someone else) because all of it is technically so attractive and therefore so compelling and because there is so much of it that if you wish to think critically about any portion of it, you must obtain the time for thinking by deliberately and consciously shutting off the stream for a time. And in addition to thinking critically about the carefully organized documents which it is almost impossible to escape, you must on your own initiative seek out other sources of information and think critically about them too. This is activity for mature and strong men and women. And as I have suggested, it brings its own high reward in the form of understanding and wisdom. If I may revert to an earlier passage, I still prefer the "Trillium" to the ship thrown together of bits of prefabricated plastic; I still prefer the landscape painted with thoughtful toil to the printed form filled in with numbered paints. I prefer them because they embody truth of a kind, while the alternatives are in a real sense 'phony'.

If Canada is to fulfil in the broader world the role of pioneer and mediator which appears to have been assigned her by the forces of history, she must accept the part before it is too late, and she cannot accept it without leaders. In a democratic society a leader is merely a person who is able to develop ideas superior enough to those generally current to possess some compelling force, and who is able by reasoning to make the superiority of his ideas obvious. However such ideas may be generated, they can not be generated without thinking. Furthermore, the leader who is in the public eye and who bears the greatest burden of political or social responsibility is dependent on other leaders whose names may not appear in the newspaper headlines, but who nevertheless are aware of their responsibility. An able cabinet minister, for example, is helpless unless he has the support of at least a large minority of people who are thinking hard and independently. An expert, however great his expertise, may be-

come misleading or even dangerous unless his ideas are constantly under criticism by people who are thinking hard and independently.

SOCIETY, THE PROFESSIONS AND LEADERSHIP

The only source we have for both kinds of leaders are well-educated people, whether they have educated themselves or have had educational opportunities presented to them. An especially heavy claim for leadership is laid upon University graduates, partly because they have had a longer time than others to learn the art, and acquire the habit, of thinking, partly because society as a whole has paid a high price in dollars for the opportunities of this favoured minority. And you will find, I think, that the man-in-the-street expects far more, even among University graduates, from those in the professions. He does so because every profession, rightly so-called, is a learned profession, and a man (or a woman) who practises a learned profession is quite rightly expected to have (in addition to professional competence) wisdom and judgment, a better than average understanding of the world and the people who compose it, and ethics, by which is meant a developed feeling of responsibility in all areas. There is no easy escape for you. You cannot say "I am a dental surgeon; I don't know what is wrong with education in our primary schools." You cannot say "I am an orthodontist; I know nothing about juvenile delinquency." You cannot say "I am an exodontist; I know nothing about nationalism in central Africa." You cannot say "I practise dentistry; I know nothing about gross national employment and unemployment." You cannot say "I am a dentist; I know nothing about the Colombo Plan." You cannot adopt these excuses because the man-in-the-street, whom I represent this evening, will reply "You have received at my hands and at my expense the best advantages which I can give you. You are exceptional people. You are involved in the responsibilities of a great

profession. You must be our leaders." No. Your only escape is a difficult one. It is to make yourselves, on your own, to the best of your several abilities, at home in as many as possible of these and other vital areas. It will take time and it will take effort. But each of you is now alive and vigorous and you can count on half a century of life, service and thinking. You can, of course, if you wish, try to relinquish the responsibility and the honour and relapse into the comforts of nonentity and the fleeting joys of the Jews' Harp. It would not bring you real satisfaction nor would it bring you true happiness. I am

sure that you will not do this. You will be true professionals both within the surgery and outside it. And in so doing you will contribute your own full share to the health and welfare—in all respects—of your community. You will make it possible for Canada to realize her own best potentialities, in creating peace, prosperity and happiness for the seventeen millions who live within her borders, and for countless millions of our brothers and sisters who live elsewhere. And incidentally, you will have much more real fun.

University College.

Case Report — Tissue Reaction To Accidental Implantation of Rubber Base Impression Material

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and GEORGE C. CHEREWAN, D.D.S., Winnipeg, Manitoba

The treatment plan for the patient called for full crown coverage of both lower second bicuspid prior to the construction of a removable partial lower denture.

On December 18, 1959 the lower left second bicuspid was prepared to receive a full crown, and was covered by an aluminum shell crown as a temporary restoration. Three days later the aluminum shell crown was replaced by a Kadon crown which was cemented with Ward's Surgi-pak.

On January 15, 1960 the patient returned with the tooth and soft tissues apparently normal. The Kadon crown was re-

moved, gingival retraction effected by means of cotton cord saturated with 1:1000 adrenalin solution, and an impression taken in Kerr's rubber base material using a sectional mesh tray. The Kadon crown was recemented.

On January 16, the patient returned to the clinic, complaining of trismus and discomfort in the lower left mandibular region, and discharge of haemorrhagic exudate into the mouth. Pain was not severe, nor were there any systemic manifestations. Examination revealed swelling of the face along the left border of the mandible. Intraorally there was inflammation and swelling of the gingiva on the buccal aspect of the mandible with obliteration of the muco-buccal fold. There was free drainage of haemorrhagic exudate from

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FIGURE 1



FIGURE 2

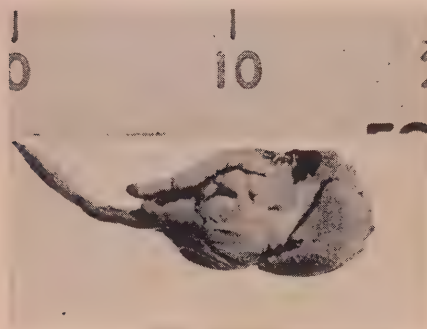


FIGURE 3

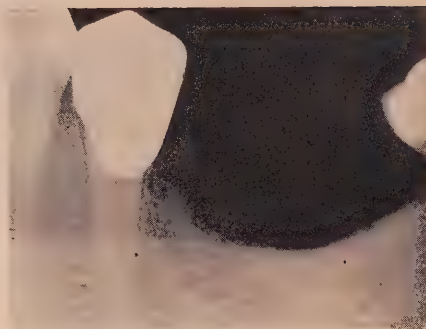


FIGURE 4

the gingival crevice upon pressure around the lower left second bicuspid. Drainage was improved by passing a periodontal probe into the sulcus. A provisional diagnosis of periodontal abscess was made, and the patient was advised to use hot fomentations and mouth washes.

On January 18, the patient was re-examined. There was a purulent exudate from the gingival crevice, but swelling and discomfort had diminished. Radiographs were taken which revealed a somewhat fusiform radiopaque mass in the region of the lower left second bicuspid, extending into the adjacent edentulous area (Fig. 1). An occlusal radiograph showed the mass on the buccal aspect of the mandible in the soft tissues (Fig. 2).

Under local anaesthesia a mucoperio-

steal flap was raised, and a piece of rubber base impression material was removed (Fig. 3). The area was explored and curetted, and the flap sutured. Healing was uneventful, but there was some gingival recession which made it necessary to extend the margin of the preparation apically (Fig. 4).

CONCLUSION

This condition possibly developed through damage to the periodontal attachment from instrumentation, overextension of the crown or use of retraction cord, enabling the impression material to be forced through the defect into the connective tissue of the gingival and alveolar mucosa.

321 Tegler Building

EDITORIALS

The New I.N.H.S. Dental Fee Schedule

Elsewhere in this issue will be found a memorandum concerning the new dental fee schedule of the Directorate of Indian and Northern Health Services, Department of National Health and Welfare. Entitlement of Canada's native citizens to dental care at public expense has been a subject of discussion for many years during which the dental profession has sought to impress upon federal authorities the importance of defining a policy which would serve to guide private dental practitioners rendering professional services to Indians and Eskimos. The Canadian Dental Association therefore welcomes the action which has been taken by the Directorate in defining its policy and procedure, thereby providing a basis for cooperative action on the part of the profession.

The Directorate encourages Indians and Eskimos to assume normal personal responsibility for health care. The provision of free dental care is accordingly restricted to eligibles who live in isolated areas or are indigent and thus are unable to secure dental attention in any other

way. In many parts of Canada eligible children under seventeen years of age receive preventive and basic corrective care at the hands of full-time I.N.H.S. dental officers. Elsewhere the Directorate may arrange basic dental care by private dentists for eligible children and certain adolescents who are not served by I.N.H.S. dental officers. Service to indigent adults, other than relief of acute pain or infection, is only countenanced where dental attention is a necessary part of medical care. Basic dental care to the extent of twenty-five dollars per year may be rendered to children aged ten years and under without prior approval. No elective procedures should be undertaken for any other eligible patient unless approval has been obtained.

The basic considerations that govern the I.N.H.S. dental assistance program from private dental practitioners are: financial inability to secure essential dental attention from a private dentist; inability to secure such attention from a full-time I.N.H.S. dental officer; limitation of service to essential and basic den-

tal care; and preferential treatment for children. In this the Directorate was undoubtedly motivated by a desire to secure the most effective and economical service by facilitating preventive and basic corrective care for young children, while discouraging the more costly forms of terminal treatment save in exceptional circumstances.

Private dental practitioners who care for Indians or Eskimos are urged to

familiarize themselves with the policy and procedures of the new I.N.H.S. dental fee schedule. While there might be a slight delay before the complete schedule becomes available for distribution, copies of the revised tariff may be immediately obtained upon request from the nearest regional office of Indian and Northern Health Services, the addresses of which will be found in the memorandum.

Group Purchase Plans for Prepaid Dental Care

The problem of providing Canadians with the dental care they need has proved to be one of the knottiest in the entire field of health services. The difficulty arises from a lack of understanding of the value of preventive care, from a lack and maldistribution of dentists, from inability to resort to mass methods of treatment and from the resultant relatively high cost of dental care.

Rising educational levels give promise of increased recognition for preventive dental care as an essential health service. Proposals to reinforce the dental profession with auxiliary personnel in order to effect a broader distribution of dental care suggest a practical means of overcoming the existing shortage of dentists. Full development and utilization of mass preventive measures and further research aimed at increasing the individual dentist's productivity constitute the answer to present handicaps in the area of treatment. What then of costs?

In consequence to the growing expense of medical and dental treatment, people throughout the world have sought to provide themselves with organized schemes of health care as a necessary part of the pattern of life. This is merely an extension of the broad quest for social security—the protection that society can furnish against certain risks to which its members are exposed. Characteristically the dental profession in Canada has been so intensely preoccupied with the scientific advancement of dentistry and with the demands for dental care that relatively little attention has been devoted to problems inherent to the purchasing of dental care. In the United States on the other hand, other sectors of society, usually employers or union groups, have pioneered by including varying amounts of prepaid dental care among the benefits provided in new labour-management contracts. Although these plans are presently limited to well-defined segments of the American

population, they are indicative of a clear-cut trend. Can Canadian dentists afford to remain indifferent under these circumstances? We believe the answer is an emphatic no because the establishment of prepaid dental schemes in the absence of leadership and guidance from responsible dental authorities is quite liable to result in a haphazard patchwork of plans without adequate regard for the legitimate needs of the producer and consumer of services. The end result of such a trend may in the long run be just as detrimental to the progress of dental science as failure to capitalize on scientific and technological achievements.

Now, more than ever before, there is need for the dental profession to pioneer in the field of prepaid dental care through group purchase plans. Assuming that dental disorders constitute an insurable risk, we need to establish the extent to

which people are willing to pay a premium commensurate with good dental care and program solvency. The problem of how to organize voluntary dental care insurance so as to make it attractive to the purchaser needs to be tackled. Only through pilot schemes will the answer be found to these important questions.

It is unlikely that employers or unions desiring to purchase prepaid group dental care will confine their interest to any single province. To this end the Canadian Dental Association has prepared a statement of Principles for Prepayment Plans and a Model Prepayment Plan for the guidance of provincial corporate members. It is heartening to know that at least one provincial corporate member is considering preparations to establish a professionally-sponsored plan. It is not too soon for others to follow.

Season's Greetings — Meilleurs vœux

Once again another year draws to a close as we approach the season hallowed by history and tradition as the time for "Peace on earth, goodwill toward men." At this time the Journal of the Canadian Dental Association extends warm wishes for a happy Christmas and a peaceful New Year to all its readers wherever they may be.

C'est la fin de l'année 1960. On approche la saison des fêtes, la saison de "Paix sur terre, aux hommes de bonne volonté." A cette occasion, Le Journal de L'Association Dentaire Canadienne désire exprimer ses vœux les meilleurs pour un joyeux Noël et une bonne et heureuse Année à tous ses lecteurs au Canada et à l'étranger.

SPECIAL MEMORANDUM

New Indian and Northern Health Services Dental Fee Schedule— Policy and Procedure*

PREFACE

A new Schedule of Fees has been prepared for the convenience of those private dental practitioners who render professional services to Canada's Indians and Eskimos. It sets forth the terms and conditions under which Indian and Northern Health Services can arrange dental services and agree to accept accounts for payment at public expense for those individuals who are acceptable for financial assistance. While there may be some delay before the complete schedule is printed, copies of the revised tariff may be obtained immediately from the nearest Regional Office of Indian and Northern Health Services, the addresses of which are included with this memorandum.

It is a common misconception that Indians are entitled, by Treaty or Statute, to free dental and medical care. Actually, they are no more entitled to free care than any other Canadian. Those who are able to do so are expected to pay for private dental and medical care and should be billed directly by the dentist or physician rendering services to them.

Many of these people, however, either live in isolated areas or are indigent and thus are unable to obtain or pay for dental and medical attention in the ordinary way. Each year, therefore, Parliament appropriates a certain sum of money for the provision of public health and essential dental and medical care to this group.

The policy of the Government of Canada is to assist Indians and Eskimos to achieve full status as citizens and towards complete integration into the community. Accordingly, these funds are allotted to Indian and Northern Health Services on the premise that they will be used as judiciously as possible to assist those who are isolated or who would ordinarily be considered indigent until they are able to assume personal responsibility for health care.

To ensure that funds will be used for the purpose intended it is necessary to establish certain criteria concerning the acceptability

of individuals for assistance, and to place certain limits upon those professional services which the Directorate is prepared to approve. Where dental care is rendered to an Indian or Eskimo in accordance with the provisions outlined in this Schedule, Indian and Northern Health Services will agree to accept accounts for payment on the basis of the allowances set forth in the INHS tariff.

The allowances for any treatment procedure listed should be regarded as a reasonable contribution to the care of the indigent patient. These should be compared, therefore, to the rates of compensation which the dentist might expect to receive for rendering professional services to other indigent persons in the community.

Two points must be stressed: Indian and Northern Health Services cannot undertake to arrange or provide a comprehensive dental care program, but must limit its assistance to emergency and essential dental attention only; nor does the Directorate compete with provincial dental tariffs in the amounts of its allowances.

ACCEPTABILITY

Not all Indians and Eskimos qualify for assistance from Indian and Northern Health Services. The acceptability of any individual is governed by the following conditions, which are reviewed before the Directorate will approve a dentist's or physician's account for payment at public expense:

1. The patient must be listed on a Register for an Indian Agency or an Eskimo group.
2. The patient has not been living away from an Indian or Eskimo community in excess of twelve months.
3. The patient is medically/dentally indigent or so isolated that the costs of transportation associated with procuring necessary treatment would place such care beyond normal economic means.
4. No other Agency (e.g. Workmen's Compensation Board, Insurance, etc.) has responsibility for the account.
5. There is no question of third party liability.

*Directorate of Indian and Northern Health Services, Department of National Health and Welfare, Ottawa.

6. Approval to undertake any elective treatment procedure has been obtained prior to rendering the service.

When an Indian has lived away from a Reserve or his Indian community for a period of twelve months, he generally ceases to be acceptable for assistance from Indian and Northern Health Services. If he subsequently re-establishes residence on a Reserve, his acceptability may become reinstated. For this reason, when called upon to render services to an Indian who does not reside in an Indian community, the dentist or physician would be wise to contact the Superintendent of the appropriate Indian Agency concerning the patient's status, in this regard.

If the patient is not acceptable for assistance from Indian and Northern Health Services, he should be billed directly.

When a dentist is in doubt as to the status of an Indian patient, the appropriate Superintendent of Agency is in the best position to advise.

INHS DENTAL TREATMENT POLICY

The policy of Indian and Northern Health Services with regard to dental health is based upon the principle that the most effective and most economical way to attain improved dental health conditions among the Indian and Eskimo peoples lies in prevention and early treatment of dental and oral diseases among their children. The Directorate's long-term objective is to raise dental health standards among these people through intensive public health efforts, including a sustained educational program designed to help them learn that they have an individual and a collective responsibility in the matter of maintaining their own and their family's dental health.

Indian and Northern Health Services does not undertake to provide a free, comprehensive dental care program for all natives, or even for all their children. Parents who are financially able to attend to their children's dental treatment needs are expected to seek the services of a local private dentist, wherever possible, and to accept personal responsibility for the costs just as other parents do.

For children under the age of seventeen years, whose parents are unable to pay for private dental care, or who live in isolated areas, an attempt is made to provide or arrange preventive and essential basic dental care services. In many parts of Canada these services are rendered by full-time INHS dental officers who visit the schools on Reserves and in native communities.

In those districts periodically served by an INHS dentist, therefore, treatment rendered to native children by a private dentist

ordinarily should be limited to emergency care for the relief of acute pain or infection, unless the parents are prepared to accept financial responsibility for payment.

Under exceptional circumstances, however, as well as in areas not regularly visited by an INHS dental officer, the Directorate may arrange basic dental care (prophylaxis, necessary fillings and extractions) by private dentists, for children under the age of seventeen years whose parents cannot pay all or part of the costs of treatment. For children aged 10 years and under necessary dental care may be provided at public expense without prior approval, where the total costs of such treatment for any one child do not exceed \$25.00 during a calendar year.

When the cost of treatment exceeds this amount, and for all elective dental procedures rendered to children aged eleven years and older, accounts can be accepted for payment at public expense only where prior approval to undertake treatment has been obtained.

The Directorate is prepared to assist also in arranging necessary dental treatment for adolescents and young adults who are undertaking a course under the sponsorship of Indian Affairs Branch, Department of Citizenship and Immigration, the Department of Northern Affairs and National Resources, or of the Territorial Governments. Under no circumstances, however, can Indian and Northern Health Services agree to accept accounts for other than emergency treatment unless prior approval has been obtained to undertake dental treatment for such individuals.

It should be stressed that as a general rule, assistance in arranging or providing dental care to children, and for young people in the category referred to above, is limited to prophylaxis, necessary extractions and fillings. Requests for crown and bridge, endodontic and orthodontic services rarely will be approved, and then only under the most exceptional circumstances.

Assistance to adults is restricted ordinarily to emergency treatment for the relief of acute pain or infection. Exceptions will be made only in the case of those who are medically/dentally indigent, where additional dental treatment is considered to be a necessary adjunct to medical care. No elective procedure, including multiple extractions, should be undertaken until approval has been obtained, where all or part of the cost of treatment is to be claimed against public funds.

Summary

Dental accounts may be accepted for payment at public expense, where individuals

are acceptable for assistance from INHS for the following services:

1. Without Prior Approval

- (a) Emergency treatment for the relief of acute pain or infection, without restriction as to age.
- (b) Examination and report relating to requests for elective dental treatment, other than denture repairs.
- (c) Consultation, including examination report, at the request of a physician, hospital or dentist.
- (d) Basic dental care for children aged 10 years and under, where the cost of treatment for any one child does not exceed \$25.00 during a calendar year.
- (e) Repair of broken dentures where no impression is necessary.

2. Dental Procedures Requiring Prior Approval

- (a) Radiographs, except for emergency diagnosis.
- (b) Prophylaxis, except for children aged 10 years and under.
- (c) Treatment, other than palliative.
- (d) Multiple extractions, whether performed under local or general anaesthesia.
- (e) Oral surgery, including impactions and fractures (other than for emergency relief of pain or infection).
- (f) Single tooth restorations (fillings), except for children aged 10 years and under.
- (g) Full dentures.
- (h) Partial dentures.
- (i) Denture relines and/or rebases.
- (j) Denture repairs where more than one tooth requires replacement, and/or where impressions are necessary.

CORRESPONDENCE WITH INHS

When a dentist has occasion to correspond with the Department with regard to any matter concerning the treatment of an Indian

or Eskimo, it facilitates matters greatly by following the established channels. Correspondence should go to the appropriate Zone or Regional Superintendent, who will either deal with the matter himself or forward the letter with pertinent information for a decision.

There is one exception to this rule. Occasionally certain patients' accounts are deleted from the dentist's or the physician's bill as submitted to Indian and Northern Health Services. This is usually due to the individual's no longer living in an Indian community or to the fact that he is not registered at the Agency through which the account was submitted. Accordingly, when enquiring about such cases, it is usually wisest to contact the Superintendent of the appropriate Indian Agency first, as it is usually at his office that such deletions are made.

ADDRESSES OF REGIONAL SUPERINTENDENTS

Regional Superintendent,
Eastern Region, INHS,
4th Floor, Booth Building,
Ottawa, Ontario

Regional Superintendent,
Central Region, INHS
705 Commercial Building,
169 Pioneer Avenue,
Winnipeg 1, Manitoba

Regional Superintendent,
Saskatchewan Region, INHS
735 Motherwell Building,
Regina, Saskatchewan.

Regional Superintendent,
Foothills Region, INHS
Charles Camsell Hospital,
Edmonton, Alberta.

Regional Superintendent,
Pacific Region, INHS
4824 Fraser Street,
Vancouver, B.C.

CORRESPONDENCE

To the Editor:

Your editorial in the October issue of the Journal (26:610, 1960) encourages me to write this letter.

It has seemed to me for some time now that as prosthetics makes up about 80 per cent of the means to a dentist's livelihood, this branch of the work is important. In the past I have written numerous letters on the subject to the journals. The leaders and teachers of the profession state that the subject is a controversial one, yet not once has anybody attempted to prove my statements wrong. The fact that the teachers and leaders of the profession state that prosthetics is a controversial subject indicates to me that they don't regard this branch of our work as a science. Science is defined as organized knowledge. It can hardly be organized and controversial at the same time. Our thinking on the subject needs clarification.

The Hanau instrument has been the one of choice in dental schools across Canada. It was introduced to the profession sometime after I graduated in 1919. As I wasn't naturally gifted in the use of my hands, it was

eighteen years later before I bought the instrument and studied the accompanying book on technique. Mine is the intraoral technique for Hanau articulator, Model H, fourth edition, 1930. On page 19 of the book Hanau states "The only exacting records are the jaw relation records, and these are controllable within minute fractions of an inch." How any teachers who have read this statement could graduate students without knowledge and confidence in their ability to make the transfer of jaw relations, by means of the face bow, and mount the casts on the articulator is beyond my understanding. Yet not 2½ per cent of the profession are following this procedure.

We seem to be apathetically content to rely on political power to retain our present position. I think our position will prove to be untenable. We should face the truth that if our present position becomes untenable the fault will be not in our stars but in ourselves. Quite a price to pay to remain in our present state of apathy.

H. A. Hartford, D.D.S.,
715 Second Avenue East,
Owen Sound, Ont.

IMPORTANT REQUEST TO CANADIAN DENTISTS

The Division of Dental Research, University of Toronto urgently requires exfoliated or extracted primary teeth for radioactive fallout and other studies. Dentists are invited to assist by collecting such teeth. The teeth from each child should be sealed in a separate envelope bearing (1) date of birth, (2) place of birth, and (3) residence of the mother during pregnancy. Individual envelopes may be inserted into a larger envelope or container and forwarded to Dr. A. M. Hunt at the Division of Dental Research, University of Toronto, from time to time.

THE ASSOCIATION

Canadian Dental Schools Being Surveyed

First to be visited in the 1960-61 survey of all Canadian dental schools was the Faculty of Dentistry at the University of Alberta. The survey team is headed by A. C. Lewis, advisor to the C.D.A. Council on Education and former head of the Ontario College of Education. Dr. Harvey W. Reid of Toronto, a practising dentist is the second member of the team. Deans of Canadian dental faculties will rotate as third member of the survey team.

Dr. Lewis has carried out a program of visits to all the schools in the past year, assisting staff with teaching programs. A complete survey of all aspects of teaching programs, physical facilities and other features is now being undertaken. The complete survey is made every five years as a means of accrediting Canadian dental schools.

Surveys, spaced over the next four months, will follow at Montreal, Dalhousie, McGill, Toronto, and Manitoba Universities. This program of teacher training and visits has been supported by the Kellogg Foundation.

C.D.A. Orthodontic Section Establishes Public Health Committee

The Orthodontic Section of the Canadian Dental Association has established an "Orthodontic Public Health Committee" under the chairmanship of Dr. R. R. McIntyre of Calgary, Alberta. Purpose of the new Committee is to maintain surveillance over develop-

ments which are likely to affect the provision of orthodontic care at provincial or national levels and to advise the Orthodontic Section of the need for orthodontic services and how such may best be rendered. Members of the Orthodontic Public Health Committee are: K. M. Walley, Vancouver, B.C.; G. W. Street, Calgary, Alberta; J. J. Schachter, Saskatoon, Sask.; W. G. Campbell, Winnipeg, Manitoba; A. Jarvis, St. Catharines, Ont.; L. P. Lepine, Montreal, Quebec; W. O. Mulligan, St. John, N.B.; T. E. Spracklin, Halifax, N.S.; B. J. O'Meara, Prince Edward Island; D. K. Peters, St. John's, Newfoundland; and chairman: R. R. McIntyre, Calgary, Alberta.

C.D.A. Past-President Attends Swedish Dental Society Centennial

Dr. W. G. McIntosh represented the Canadian Dental Association at the Centennial Meeting of the Swedish Dental Society, August 17-20, in Stockholm. The scientific program featured lectures, symposia, panel discussions, motion picture presentations and demonstrations by prominent research workers and clinicians from many parts of the world. The Congress was held at the Concert Hall and at the recently built premises of the Swedish Dental Society in Stockholm. An interesting feature was provided by the historical exhibition of objects and publications from the past hundred years, demonstrating scientific and technical advances in dentistry. An international dental supply trade exhibition was also arranged in connection with the Congress.

THE PROVINCES

ALBERTA

Edmonton and District Dental Society

The Society held its first meeting under Dr. Bruce MacKenzie on October 4, 1960. Dr. Ralph Phillips, professor of Dental Materials was the guest speaker. There was a good attendance at the afternoon and evening meetings.

Dr. Phillips gave a very interesting address on some of the older and newer materials. He pointed out how one could improve restorations regardless of the material used. The audience was very impressed by the calibre of the presentation which will help individual dentists to render better services to their patients.

During the summer the regular golf meets were directed by Dr. Brian Dunworth. Dr. Dunworth was also in charge of the joint Alberta meet in Red Deer. Participants visited the golf clubs in the city and certainly enjoyed the social atmosphere, even if this did not improve the calibre of the game.

A most interesting scientific program has been prepared for this year and the Society looks forward to the wholehearted support of the membership.

J. R. H.

New Red Deer, Alberta Dental Program

A comprehensive, three-stage preventive dental program is planned by the recently formed dental division of the Red Deer Health Unit under the direction of Dr. C. G. More, Medical Health Officer, and Dr. C. A. White, Dental Health Officer.

The first project will be a complete dental survey of children in the country districts carried out in cooperation with federal and provincial authorities as part of the Canadian Dental Health Index.

The second phase will be a check of the fluoride content of natural waters in rural areas and district communities prior to the inauguration of a topical fluoride program.

The third phase will be a reorganization of school dental surveys in the city of Red Deer.

Purpose of the dental surveys is to notify parents and children of the need for dental treatment. Statistical information from surveys will serve to evaluate the effectiveness of health education, topical fluoride applications and other preventive or control measures. Dental treatment will be provided by family dentists who practice in Red Deer and district.

BRITISH COLUMBIA

Vancouver and District Dental Society

The meeting in October was one of the best attended and most enthusiastic ever held.

The guest lecturer, Dr. John Ingle of the University of Washington School of Dentistry, spoke in the afternoon on the subject "Differential Diagnosis of Oral Pain". The evening address dealt with the differential diagnosis of oral and associated facial pain. The chief types of pain covered in the lectures were pulpal, periapical, periodontal and neurologic.

Diagnosis and treatment is often time-consuming and unremunerative, hence the dentist must be rewarded by the satisfaction he receives in solving difficult problems. In order to reach a successful diagnosis it is essential to have experience, knowledge of the basic sciences and physiology of pain,

an interest in people, curiosity and patience. The complete account of Dr. Ingle's lecture appears in "The Mirror", volume 3, number 2, published by the Vancouver and District Dental Society.

Another dental assistants' course is under way for the benefit of assistants without previous experience. The instructors are members of the Vancouver and District Dental Society.

At the November, 1960 meeting over one hundred members heard Dr. L. E. Knowles of Los Angeles who discussed "The Dowel Attachment Partial Denture".

To date there are 267 paid-up members in the society, 80 per cent of the possible total.

D. H. M.

Convention in Kamloops

The Interior Dental Society at its fall convention in Kamloops had as its guest speaker Dr. Cosmo Castaldi, head of the department of children's dentistry at the University of Alberta. Other speakers were Dr. Ross Upton, executive secretary of the B.C. College of Dental Surgeons, and Dr. Harold Henderson, president of the B.C. Dental Association.

The following new officers were elected: President — Dr. H. J. Phillips, Vernon; Vice President — Dr. R. B. Emslie, Kelowna; Secretary-Treasurer — Dr. D. M. Lemiske, Vernon, and Directors — Dr. A. E. Wells, Penticton, and Dr. Bud Iwasaki, Kamloops.

Dental Budget Plan in Vancouver

A pilot dental budget plan comprising fifty members of the Vancouver and District Dental Society was initiated over a year ago. At a recent meeting, attended by 135 members of the Dental Society at the Vancouver Public Library, the following improvements and modifications in the experimental pilot plan were announced:

1. All members of the Vancouver and District Dental Society in good standing, who have registered and received instructions in the use of the plan, are eligible to participate.
2. The withholding amount has been reduced from ten per cent to five per cent on each loan.
3. The dentist's signature as guarantor has been eliminated.
4. The multiplicity of the forms previously required has been reduced to one form.

Dr. Joseph Vickar Memorial Bursary Established at U.B.C.

With the proceeds of approximately \$2,000.00 an annual bursary of \$100.00 was recently established at the University of British Columbia as a memorial to Dr. Joseph Vickar by his friends.

This was given through the Vancouver B'Nai B'Rith Hillel Foundation and is offered to pre-dental and pre-medical students in attendance at the University. This bursary will be limited to dental students when a dental faculty is established at U.B.C.

In making this award, consideration will be given to need and academic standing. It is expected that the bursary will be awarded in September before commencement of the university session.

B.C. Acts on Denturist Licenses

It is reported that early in October 48 requests from British Columbia dental technicians for licenses to make, repair, and sell full dentures directly to the public received approval. A dentist's prescription is required for making a partial denture. These licenses are to be granted to technicians with 12 or more years' experience, who have been dealing directly with the public during the last seven years. Of 130 applicants, 48 were approved for the licenses and 30 other applications are under review.

It is understood that such licenses will be granted only to individuals who have been dealing directly with the public to this date; and will not be given to new individuals subsequently entering the craft. It is further understood that licenses will not be issued until all applications have been considered.

Two Regional Dental Consultants Take Public Health Training

National Health Grant bursaries for specialist post-graduate training have been awarded to Drs. D. Bullen and A. Gray, regional dental consultants of the Division of Preventive Dentistry, British Columbia Provincial Health Branch. Moneys made available by the National Health Grant Program and the government of British Columbia enable them to attend the University of Toronto for studies leading to the Diploma in Dental Public Health.

Dr. Bullen, with headquarters at Trail, has served the three health units of the Kootenays since September, 1959. The three northern health units of the province have been similarly served by Dr. Gray from Prince George since February, 1960.

Natural Fluoridation Improves Nakusp, B.C. Dental Health

Dental decay among children living in the city of Nakusp has been reduced as a result of natural fluoridation, according to Dr. D. Bullen, Regional Dental Consultant. The water contains 0.7 p.p.m. fluoride.

B.C. College of Dental Surgeons to Certify Specialists

Following approval of regulations governing certification of specialists by the Lieutenant-Governor-in-Council on July 11th, 1960, Council of the British Columbia College of Dental Surgeons is making arrangements to hold the initial specialists' examinations as soon as possible.

MANITOBA

University of Manitoba Faculty of Dentistry

Postgraduate Courses

Two postgraduate courses were conducted during the last winter session at the new dental school. One two-day course in periodontology by Dr. B. O. A. Thomas from California was attended by seventeen practitioners from Manitoba. The second course was given by Dr. J. R. Trott as a series of five evening lectures in the field of Oral Pathology. The lectures covered ulceration, tumours of the gingivae, and white lesions of the oral mucosa. Over forty practitioners from Winnipeg attended the evening lectures.

The Faculty intends to organize additional courses on various subjects in the future. These will be conducted at the dental school in Winnipeg or in rural localities throughout the province, under the auspices of the University of Manitoba, Department of Extension Studies.

Opening of the Clinic

Opening of the clinical facilities in the new dental school was partially assisted by the use of television. A very successful five-minute program on C.B.C. conducted by Dr. R. Stephens from the Department of Oral Diagnosis, enabled the nineteen students entering the third dental year to obtain patients fairly rapidly. Although there has not been a marked flow of patients to the school, there are a steady number attending

requiring all phases of dental treatment.

Student Registration

Nineteen students commenced the second year of the course, including two European graduates, one from Athens, Greece, and the other from Germany. Twenty-seven students commenced in the first year: eighteen from Manitoba, six from Saskatchewan, one from Ontario, one from Montreal, Quebec and one from the West Indies.

New Staff Appointments

Dr. J. M. Grahame has been appointed as assistant professor (half-time) and Director of Clinics. Dr. Grahame has been on staff for over a year in the Crown and Bridge Department.

Dr. M. A. Averbach returned to Winnipeg following one year's post-graduate work at Tufts University School of Dental Medicine in Boston. He confined his studies to Periodontology and has returned to Winnipeg where he will divide his time equally between the dental school and private practice.

Dr. E. M. Cole has been appointed assistant professor in anaesthesiology (half-time). He formerly practised at Boissevaine, Manitoba, and subsequently proceeded to the University of Pittsburgh for two years' graduate studies.

Dr. R. J. McCarten, who has been with the Department of Prosthodontology for the past two years, has increased the number of sessions at the school to half-time and has been appointed lecturer in this subject.

Now that the dental school has three full years of a four year course, the majority of the staff, full-time and part-time, have been appointed. A number of Winnipeg practitioners have joined the staff in part-time appointments as demonstrators. Drs. P. Beattie, J. Grahame, and L. Soloway are in the Crown and Bridge Department; Drs. R. O. Glenn, R. J. McCarten, and R. E. Wallace are in Prosthodontology; Drs. R. E. Jordan, Scott-Norquay, W. Shortill and I. Wolch are in Endodontology; Drs. G. Campbell, F. W. Jones, W. Pilutik and C. D. Rusen are in Operative Dentistry and Paedodontics; while Dr. J. Rumberg is in Oral Diagnosis and Radiology; Dr. W. J. Riley in Professional Conduct; Dr. M. J. Snidal in Dental Anatomy and Dr. H. Tregobov in Dental Sciences.

J. R. T.

NOVA SCOTIA

Cape Breton Dental Society Opens New Session

The Cape Breton Dental Society resumed its monthly meetings on September 26th at the City Hospital in Sydney. There was a very satisfactory attendance at the first meeting.

Election of officers for 1960-61 took place as follows: President, Dr. L. Israel; Vice-President, Dr. C. Sullivan; Secretary, Dr. W. MacKeigan; North Sydney Rep., Dr. G. MacKenzie; Glace Bay Rep., Dr. L. Buffett, and New Waterford Rep., Dr. M. Laffin.

The president-elect welcomed a new member to the society, Dr. Gerald Turner who has opened an office in Glace Bay. At several of the meetings this year individual members will be presenting clinics and lectures. A Ladies' Night is planned for New Year's Eve.

We regret to report that Dr. B. Buchanan is a patient in St. Elizabeth Hospital in North Sydney.

J. E. M.

ONTARIO

Toronto M.O.H. Advises Against Fluoridated Milk

In a report submitted at the request of the Board of Control to the local Board of Health on August 10, 1960, Dr. A. R. J. Boyd, Medical Officer of Health of the City of Toronto advised against the use of milk as a vehicle for supplying fluorides. Dr. Boyd gave the following reasons for his decision:

1. While there is a vast accumulation of evidence gathered over many years that 1.0 p.p.m. of fluoride in the water is
 - (a) highly effective in reducing the occurrence of dental caries in a community, and
 - (b) is without harmful effect, very little is known about the results of fluoridation of milk.
2. On the surface one would be tempted to say that fluorides are fluorides whether obtained from water or milk. However, it does not follow that fluorides taken in the one way will produce the same results

or have the same effects as fluorides taken in the other. Milk is a complex substance and it may be that some of the constituents of milk would alter the effect of, or render ineffective, the added fluoride. One does not know what level of dosage to consider for milk. There are numerous other unknowns which could only be resolved by 10 - 15 years of extensive and expensive research before fluoridation of milk could be applied generally. The essential research has been done with respect to fluoridation of water.

3. Even if we could positively assert that adding fluorides to milk at a given concentration would be effective in reducing the incidence of dental decay and without harmful effect, the matter of controlling the addition would be complex, if not impossible.
 - (a) Each dairy supplying fluoridated milk would require to have the means of adding the correct amount of fluorides, whatever it might be, and ensuring its uniform dispersal throughout each batch of milk processed.
 - (b) Laboratory controls "on the spot" of each batch of milk would be required. The assessment of the fluoride content of water is relatively simple, but for milk it is complex.
 - (c) The fluoride content of milk varies considerably according to the season and from time to time according to the feed used for a dairy herd. Thus preliminary assay of every batch of milk before fluoridation would be required as well as the laboratory analysis afterwards. In contrast, the fluoride content of raw water is practically constant.
 - (d) There is a long experience of adding substances to water in exact amounts and machines capable of maintaining exact dosage with automatic adjustment according to rate of pumpage are in use. No such precise automatic devices have been developed for dairy work.
 - (e) Official supervision and control would be extremely difficult and costly.
4. The cost of fluoridating milk would be high, very much greater than it would cost to fluoridate water. If only a part of the milk supply were to be fluoridated, the increased retail cost of such milk would discourage its use. At present a goodly percentage of children consume only small amounts of milk.
5. It is generally agreed that fluorides should be taken from birth. Since many

infants are breast-fed for several months, adequate fluoride would not be obtained unless the mother increased her intake of fluorides. Moreover, of those infants not breast-fed and of those taken off breast-feeding, many are fed with formulae based on evaporated or powdered milk preparations. Thus it would be necessary to provide fluoridated evaporated milk, etc. The problem of proper dosage and controls would be even more complex than for fresh fluid milk.

6. Enabling legislation to permit the addition of anything to milk would have to be obtained.

Oshawa School Named After Dr. S. J. Phillips

On October 24, 1960, the Oshawa, Ontario, Board of Education decided to rename one of its public schools in honour of Dr. S. J. Phillips, prominent Oshawa dentist, former member of the Board of Governors of the Canadian Dental Association and for many years chairman of the Finance Committee. The action of the Board of Education was taken in recognition of the many years of service which Dr. Phillips devoted to the Board and to the children of Oshawa. Following is the text of the motion adopted by the Board of Education:

"The pupils of a school tend to identify themselves with the character and nature of the name or motto that the school possesses. When a citizen of this community has distinguished himself by giving more than twenty years of free service as a public servant in the interest of education, it is fitting that his name should be commemorated as an example of selfless devotion for the good of his fellow man. Such a distinguished citizen is Dr. S. J. Phillips who, without any consideration but duty, was a faithful and loyal member of the Oshawa Board of Education for many years. During these years he also gave of his professional services to literally hundreds of Oshawa school children simply on the basis of their need. His colleagues and those who know Stanley J. Phillips well would say that he is a fine Christian gentleman. He always stands for something that he thinks is in the interest of others and rarely was heard to say a word against any action except on his own honest conviction. In opposition he can be more pleasant than most men who are in support of an idea because he simply seeks

the truth and has a thorough respect for every man and his right to think and speak for himself. If it can be said that we owe a rental for our room on earth, it could be marked against his account (the words) "Paid in Full". In view of this long service in the fine character of Dr. S. J. Phillips we have great pleasure in moving that the school with which he and his family have been most closely associated over the years, North Simcoe School, now be renamed Dr. S. J. Phillips Public School after this fine gentleman and public servant."

Sudbury Dental Director Reports Beneficial Result of Fluoridation

Addressing the Local Board of Health on September 14, 1960 Dr. A. B. Sutherland, Sudbury and District Health Unit Dental Officer advised that his staff had visited 36 city and 86 rural schools where dental examinations were provided for 11,943 and 9,471 pupils respectively. A detailed examination carried out on random samples of children aged 5, 7, 9, 11 and 13 who have been continuously resident in Sudbury since birth revealed that 42.27% of the city school children and 31.74% of the rural school children were without dental defects. Dr. Sutherland drew attention to the significant difference between children using fluoridated and children using non-fluoridated water.

Dr. H. S. Grey Appointed Dental Director for Toronto

The Medical Officer of Health, Dr. A. R. J. Boyd, has announced the appointment of Dr. H. Spencer Grey as director of the Division of Dental Services in the Department of Public Health, City of Toronto.

Dr. Grey was first employed by the Division as a part-time clinician in the school dental services. In 1958 he was granted leave-of-absence to take special training in public health at the University of Toronto. Upon return to the service, he was appointed Assistant-Director on a full-time basis. His present appointment as Director came in October this year filling the vacancy of the directorship, when Dr. F. H. Compton accepted the editorship of the Journal of the Canadian Dental Association.

Dr. Grey was born in Alliston, Ontario, and is a son of a Methodist clergyman. His education in elementary and secondary schools took place in Toronto and Brantford. He is a graduate of the Faculty of Dentistry,



H. Spencer Grey, D.D.S., D.D.P.H., Director, Division of Dental Services, Department of Public Health, City of Toronto.

and other assistance for research in medicine and dentistry.

The group noted that there are no oral medicine departments in any medical or dental school in Canada. It was stated that 50 percent of the children in Canadian schools suffer from diseases in the area of the teeth, and that 60 percent of adults lose their teeth prematurely.

University of Toronto in 1939. He enlisted in the Canadian Dental Corps in 1940, proceeding overseas with the Third Division Dental Company, and was attached for duty to the 3rd Anti-Tank Regiment. Dr. Grey had a tour of duty in France, Belgium, Holland and Germany and completed the overseas tour at Canadian Military Headquarters, London, England, in charge of Headquarters clinic. He was discharged in 1945, re-entering full-time practice at his previous Bloor-Keele Street address until 1948, when he joined the part-time staff of the Dental Division of the Department of Public Health.

Dr. Grey has many hobbies, his work being his first love. He is, however, a very talented photographer and a sailor of note, associated with the activities of the Canadian Power Squadron. He has given time to masonic activities as a member of St. George Lodge.

We extend the best wishes of his professional colleagues and friends in the new responsibilities he has assumed and wish him a most successful career as Director of the Division of Dental Services for the City of Toronto.

G. T. M.

Dental Research Group Formed at London, Ontario

A group of dentists in south-western Ontario have incorporated a foundation to support research in oral diseases and deformities and to advance oral medicine in Canada, it was announced on October 23rd by Dr. H. C. Parrott of Woodstock, Ontario. The foundation will provide scholarships

Faculty of Dentistry, University of Toronto

Dr. K. J. Paynter has been appointed Chairman of the Council on Research, Canadian Dental Association, for the term 1960-1963. Other staff members appointed to this council were Drs. D. L. Anderson, E. P. Harvold and C. D. Torneck.

Dr. J. D. Purves has been re-appointed as faculty representative to the Board of Directors of the Royal College of Dental Surgeons of Ontario for the 1960-1962 term.

In view of the small number of applications for the dental nursing course in session 1960-1961, this course is not being offered during this session.

Dr. J. D. Purves was appointed Chairman of the Council on Journalism, Canadian Dental Association, for the term 1960-1963. Another staff member appointed to this Council was Dr. M. G. Boyes.

QUEBEC

Professor W. C. Bushell and Professor G. Franklin Honoured

On the evening of October 18, 1960 more than two hundred graduates of the Faculty of Dentistry of McGill University gathered at McGill's Redpath Hall to do honour to two of their former teachers. The occasion was a testimonial dinner in tribute to Professor W. C. Bushell, Chairman of the Department of Crown and Bridge Prosthesis, and Professor Gerald Franklin, Chairman of the Department of Orthodontics, who retired from their active responsibilities in the Faculty this year.

Dr. F. Cyril James, Principal of McGill University, spoke on behalf of the university in recognizing the great contribution which these two men have made as dental educators over a period of more than thirty years.

Dr. Wilfred Johnston introduced Dr. Franklin to his confreres, while the introduction of Dr. Bushell was given by Dr. Wallace Walford. Each of the honoured guests, in receiving a memento to mark the occasion, reminisced on the changes that they have seen in the Faculty, and in dentistry as a whole, over the period of their teaching careers. However, both men emphasized the rewarding satisfaction that teaching, and their association with the University has given them.

A memorable evening recognized the careers of two truly outstanding men of McGill's Faculty of Dentistry.

Montreal Annual Fall Clinic

The thirty-fifth Annual Fall Clinic of the Montreal Dental Club was held in the Queen Elizabeth Hotel on October 19, 20, and 21, 1960. Over three hundred registered dentists, as well as a large number of visitors and guests, combined to make this year's convention a great success.

Registration began at 8.30 on Wednesday morning and was followed by a series of table clinics. Dr. Roberta Dundass, Dr. A. J. Schutz and Dr. J. McMullen of the Paedodontic Department of McGill University presented clinics on anaesthesia and cavity preparation in deciduous teeth. Dr. E. Burbank discussed up-to-date dental radiology. Dr. H. Caplan demonstrated the use of splinting and precision attachments. Dr. H. Ptack presented a clinic on the use of porcelain and gold in inexpensive oral rehabilitation. Dr. L. Feinchnneider discussed conventional procedures and by ionophoresis in endodontics. Dr. V. Griffiths demonstrated space maintainers and regainers. Capt. J. L. Bosse, R.C.D.C., outlined a procedure for making an inexpensive duplicate denture. Capt. R. H. Headley, R.C.D.C., described the construction of an immediate upper denture. Dr. C. Baril discussed electromyography in dentistry. Capt. A. Bartelle, U.S.N., of San Diego, outlined the prosthetic procedures required when making a subperiosteal mandibular implant denture. Dr. E. Slapcoff illustrated his paper on the use of cytologic techniques in the early diagnosis of intraoral carcinoma, and Dr. G. Pelletier discussed the dynamics of occlusal equilibration.

Before the noon luncheon, delegates circulated among the exhibitors' booths to view the latest equipment, materials and techniques.

Following the luncheon, Dr. Howard T. Oliver, President of the Montreal Dental Club, welcomed all delegates to the convention. In his presidential address, Dr. Oliver outlined the position of dentistry today, and suggested future goals which would be beneficial to both the profession and the public.

The afternoon session began at 3.00 p.m. with an essay by Capt. A. Bartelle, D.D.S., U.S.N. Dental Corps, San Diego, California, entitled "The Subperiosteal Mandibular Implant Denture — Present Day Technique." The two-appointment surgical procedure for the placement of a subperiosteal mandibular implant was presented and illustrated with colour transparencies. Included were indications for the implant, the bone impression, the implant design, prosthetic procedures for the completion of the implant denture, follow-up appointments and implant pathology.

From 7.00-8.00 p.m. the Montreal Dental Nurses and Assistants were hostesses to a highly successful cocktail party to which all registered dentists, their wives and nurses were invited.

Scientific sessions recommenced at 9.30 Thursday morning with the first of the registered clinics. Each of the five clinics was repeated on three occasions, enabling the delegates to attend the three that most interested them.

Dr. B. Dent, of Memphis, Tenn., Charter Member of the Academy of General Dentistry, spoke on "Modern Procedures Regarding Silicate Cements." Current advances in the fields of pulp protection and the restoration of the incisal angle were discussed.

Dr. I. E. Klein, Clinical Professor of Prosthodontics, New York University College of Dentistry, outlined "An Immediate Denture Technique — A New Concept." A technique was demonstrated that makes it possible to maintain an immediate denture for long periods of service without pathological ridge or peripheral changes.

Dr. R. H. Roydhouse, of Dunedin, New Zealand, and Senior Research Fellow, Eastman Dental Dispensary, Rochester, N.Y., gave "Some Practical Suggestions for Improving Amalgam, Silicate Cement and Gold Restorations." Dr. Roydhouse covered the physical properties, preparation of, and cavity design required, for these three restorative materials.

Dr. P. F. Sydow, of Framingham, Mass., spoke on some "Practical Paedodontic Procedures for the General Practitioner." Dr. Sydow discussed the paedodontic patient from the initial telephone call to the completed case.

Dr. Z. Kasloff, of Winnipeg, Man., Associate Professor and Head, Sections of Crown and Bridge Prosthesis and Dental Materials, University of Manitoba Dental School, spoke

on "Practical Fixed Crown and Bridge Procedures." Dr. Kasloff described a practical approach to meeting the requirements for fixed restorative procedures not necessarily involving full mouth rehabilitation or reconstruction.

Following the registered clinics on Thursday morning, a general session was held to hear a lecture on "The Complete Management of the Surgical Patient." The essayist was Dr. E. P. Millar, Attending Staff Member of the Montreal General Hospital, the Montreal Children's Hospital and St. Mary's Hospital. Dr. Millar reviewed and emphasized the pre- and post-operative management of the oral surgery patient with a view to making surgical procedures in the office of the general practitioner more gratifying to both dentist and patient.

The speaker following the noon luncheon was Dr. R. H. Roydhouse who informed the audience on the present use of dental auxiliaries in New Zealand. He outlined the requirements, the training, and the responsibilities of this type of dental personnel.

The balance of the afternoon was filled by registered clinics and exhibits.

The Supper Dance, now a very popular event of the convention, started at 10.00 p.m., with dancing to the music of Paul Beauregard and his Orchestra until 1.00 a.m. Over one hundred couples were on hand to enjoy the delicious buffet-supper and the gay social evening that followed.

Friday, the final day of the convention, began at 9.30 a.m. with the registered clinics. These were followed by a general session addressed by Dr. Harry Slater, of the Montreal Anaesthesia Centre. Dr. Slater's paper, entitled "Handling Emergencies in the Office," covered the complications that might develop at any time in a dental office, as well as the instruments, machines and drugs which may be used to institute resuscitative procedures.

The wives and nurses of many of the delegates attended the final luncheon of the convention. They were highly entertained by a speaker whose identity is still somewhat dubious.

The essayist at the afternoon general session was Dr. W. J. Gardner, Lecturer in Operative Dentistry, School of Dental Medicine, Tufts University. Dr. Gardner, the co-originator of audio-analgesia, spoke on "The Use of Audio-Analgesia in Dentistry." He explained, and illustrated by means of a motion picture, how this concept makes possible a new and easier approach to

dental care for both the patient and the dentist.

With the completion of the general session, the thirty-fifth Annual Fall Clinic of the Montreal Dental Club came to a close. To the General Chairman, Dr. D. Bruce Ward, and to his committees, are extended the sincerest congratulations of all the participants for a well-organized, informative and very enjoyable convention.

J. D. F.

SASKATCHEWAN

Fluoride Tablets for Saskatchewan Rural Children

The Saskatchewan Department of Public Health will supply regional health officers with fluoride tablets for one-a-day consumption by children under school age. This was announced by the Honourable J. Walter Erb, Minister of Public Health, who said that the provincial government had allocated special funds. The program is under the general direction of Dr. A. E. Chegwin, provincial dental director.

Parents will obtain their free supplies from the administration of the health region in which they live. The free distribution does not extend to families in cities or towns which have communal public water supplies. The addition of fluoride to such water supplies, where indicated, is a municipal responsibility.

Distribution of fluoride tablets to expectant mothers, begun two years ago, will be continued. Regional medical health officers and their staffs make this distribution as part of their maternal and child health programs.

Western Canada Dental Society

Considerable time and effort is being expended on preparations for the joint convention of the Canadian Dental Association and the Western Canada Dental Society next June in Saskatoon. Complete interim plans have been reported by committees. Convention business will feature on the Society agenda at every business meeting from now until next June.

L. D. H.

Saskatoon Dental Society

An extensive scientific program has been planned by the Saskatoon Dental Society during the current year. At the first fall meeting the guest was Mr. S. Nicholson, Provincial Minister of Social Welfare. Mr. Nicholson spoke on the need for extending dental services. A very lively discussion ensued.

College of Dental Surgeons of Saskatchewan

The College is establishing a program of lectures for dental assistants and it is anticipated that these will commence shortly.

Swift Current, Saskatchewan Medical Care Program

Writing in the October 8th, 1960 issue of the Canadian Medical Association Journal, Dr.

A. D. Kelly describes the Swift Current Medical Care Program as the only existing Canadian example of a compulsory, publicly financed system of medical care insurance covering the entire population of a large area since 1946. In 1960, nearly 50,000 men, women and children were entitled to comprehensive services rendered by 41 physicians, including eight specialists at work in the Swift Current region. As expected, utilization of services by a fully insured population is higher than would otherwise apply. A deterrent fee payable by the patient is employed in respect to home calls and office visits in order to conserve funds and impose some restraint on utilization. Financing of the program is based on a personal tax and a property tax of 2 mills on assessed value, supplemented by a provincial grant. Current remuneration of regional physicians is based on fee-for-service at 80 per cent of the 1959 Schedule of the College of Physicians and Surgeons. In 1958 the average gross income from the Plan for the 41 regional physicians was \$15,454.00.

A. D. Kelly

C.M.A.J.

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THE CORPS

Dental Officers' Allowance

The Associate Minister of National Defence, Mr. Pierre Sevigny, has announced pay increases for the Armed Forces effective October 1st. In addition to the general increase granted all servicemen, dental officers' professional allowance was raised from \$60.00 to a maximum of \$175.00 per month depending on length of service and rank.

Canadian Dental Association held in Ottawa in late September as well as the Montreal Dental Club Annual Fall Convention held October 19-21. During the last week in October he participated in the Vice Chief of the General Staff's Study Period on Field Operations at the Canadian Army Staff College at Kingston.

Colonel Shillington to A.D.A. Convention

Colonel G. B. Shillington, Deputy Director General of Dental Services journeyed to Los Angeles to attend the American Denture Society Meeting and the American Dental Association convention held on October 14-15 and October 17-20 respectively.

Brigadier Baird Attends Various Meetings

Brigadier K. M. Baird, Director General of Dental Services attended the Board of Governors' Meetings and Convention of the



R.C.D.C. FLASHBACK
Nimegen, Holland 1944

*Courtesy of Dr. G. F. Walden,
London, Ont.*

Captains Bosse and Headley Present Clinics

Captain J. L. Bosse and Captain R. H. Headley both of No. 15 Dental Company presented table clinics at the Montreal Dental Club Annual Fall Convention.

Colonel Harris Honoured

"His Excellency The Governor General has informed the Minister of National Defence that Her Majesty the Queen has been graciously pleased to appoint Colonel H. L. Harris, C.D., D.D.S., Director of Dental Services (Navy) as a Queen's Honorary Dental Surgeon." — Canada Gazette October 22, 1960.

Colonel Harris was born in Freeport, Nova Scotia in June, 1908 and received his professional education at Dalhousie and McGill Universities, graduating in 1934. Following a year's internship at Montreal Hospitals, he entered private practice in Kentville, N.S.

He served with the 84th Battery, Royal Canadian Artillery, Non-Permanent Active Militia from 1925 to 1928 and in November 1939 enrolled in the C.D.C. serving overseas from September 1942 to October 1945 in the United Kingdom and Northwest Europe. Since the war Colonel Harris has held senior appointments with the R.C.D.C. as Assistant Director of Dental Services, Deputy Director of Dental Services, Commanding Officer of No. 12 and 13 Dental Companies and since May 1958 in his present appointment as Director of Dental Services (Navy) in the Directorate of Dental Services, Ottawa.

R.C.D.C. Officers Attend Courses

The following dental officers have attended or are attending courses as indicated: Majors A. G. Andrews, RCAF Station Rockcliffe and J. V. P. Chatwin, Canadian Forces Hospital, Kingston — Oral Surgery at the Royal College of Surgeons, London, England.



R.C.D.C. FLASHBACK
Caen, France 1944

*Courtesy of Dr. G. F. Walden,
London, Ont.*

Major W. W. Anglin, Camp Petawawa — Periodontics at the United States Navy Dental School, Bethesda, Maryland.
Major D. J. Carmichael, H.M.C.S. "Naden", Esquimalt, B.C. — Oral Surgery at Ent Air Force Base, Colorado Springs, Colorado.

Royal Canadian Dental Corps Association

The R.C.D.C. Association held its annual meeting in Ottawa on the 29th and 30th of September 1960.

Among the distinguished guests who spoke were:

Major - General A. E. Wrinch, Director General of Survival Operations; Major-General J. D. B. Smith, Adjutant - General, Canadian Army; Air Commodore G. G. Diamond, representative for the Air Member for Personnel; and Commodore R. L. Hennessy, representative for the Chief of Naval Personnel.

Those elected were: Honorary Presidents — Brig. E. M. Wansbrough, Col. J. P. Whyte; Past President, Lt-Col. N. L. Simon; President, Lt-Col. J. S. Goodfellow; President-Elect, Lt-Col. W. G. Campbell; 1st Vice-President, Lt-Col. G. L. Ramsay; 2nd Vice-President, Lt-Col. C. E. Woods; Secretary, Col. C. B. H. Climo; Treasurer, Col. H. R. McLaren.

Postings

The following postings of dental officers have recently taken place:

Major J. W. Jolly to Fort Churchill from RCAF Station Centralia, Ontario.

Captain J. L. M. Masse to Camp Valcartier, Que. from RCAF Station Summerside, P.E.I.

Captain T. C. Gaudet to RCAF Station Chatham, N.B. from RCAF Station Greenwood, N.S.

Captain G. G. Tremblay to R.C.S.M.E., Vedder Crossing, B.C. from RCAF Station Cold Lake, Alberta.

GENERAL NEWS

Dentistry in Asian Countries

Dentistry in Asia has been practised in an elementary way for many years. Recently there has been a desire to raise the standards of dentistry, but considerable difficulties are experienced in attracting sufficient men and women of satisfactory education to undergo dental courses of university standard. The fact that the traditional dentist has a low social status also makes the profession less attractive. In most Asian countries the economic condition of the people is poor and they are therefore unable to support the increased costs associated with modern dentistry.

In the seventeen countries on which detailed information is available, the estimated number of dentists of all kinds to serve a population of 777,107,000 is 54,910 of whom 34,226 possess dental qualifications. There is therefore one dentist to 14,150 people but only one academically qualified dentist to 22,700 people. The number of dental graduates per year is grossly inadequate and there will be a serious shortage of dentists for many years to come.

Dental auxiliaries are employed in all seventeen countries under review, but in only eleven are operating type auxiliaries recognized for employment. Dental hygienists are recognized in only four countries, whereas dental nurses of the New Zealand type are employed in seven countries (British North Borneo, Ceylon, Hong Kong, Indonesia, Malaya, Sarawak and Singapore) of which three have their own training schools. In no Asian country are dental technicians permitted to perform dental procedures directly for the patient.

The two main endemic dental diseases, dental caries and periodontal disease are common to all Asian countries where they pose serious problems. Indians and related peoples are notable for the high incidence of periodontal disease at all ages. Oral hygiene methods are largely poor although many people use either toothbrushes or sticks for cleaning the teeth. Owing to the great shortage of academically qualified practitioners, the ordinary people of most Asian countries prefer to go to untrained or partly trained dentists whose standard of work is often very poor.

All of the countries reviewed employ at least one full time dentist in the public service and dental treatment is provided on various levels. In seventeen countries with a combined population of about 777,000,000 people, there is the equivalent of approximately 1,252 dentists in full time employment in public service, a proportion of one dentist to about 620,000 people. There is an acute shortage of private dental practitioners in almost every country, the shortage being worse in rural areas.

W. C. Allwright et al.
INT. D. J.
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F.D.I. President Re-elected

The General Assembly of the Federation Dentaire Internationale unanimously re-elected the president, Dr. O. H. Moen for a further term of one year at the 48th annual session in Dublin, June, 1960. A newly elected councillor is Dr. P. Lalli, the secretary general of the Rome Congress.

F.D.I. Annual Sessions 1963 and 1964

The General Assembly accepted with much pleasure an invitation from the Swedish National Committee for the F.D.I. to meet in Stockholm in 1963 and from the American Dental Association for the F.D.I. to hold its 52nd Annual Session in San Francisco in November 1964.

Dental Art Exhibition planned for XIII International Dental Congress of the F.D.I. 1962.

During the XIII International Dental Congress of the F.D.I. to be held in Cologne from July 7 - 14, 1962 an exhibition of works of art, done by dentists, is being planned. It is intended to show in a comparatively modest setting paintings, sculpture, sketches and etchings, as well as works of literature and art, which have been done by dentists in their leisure time.

Dentists who wish to take part in this exhibition are asked to send either a transparency or, if possible, a coloured repro-

uction of the exhibits (not smaller than 2½ in. x 3 in.) to Dr. Paul Jaeger, Nikolai-strasse 2/1, Munich 23, not later than December 31, 1960.

Dentists wishing to take part will immediately be notified of the conditions attached to participation in this exhibition.

All proposed exhibits will be submitted to a jury, composed of artists and dentists, with whom will rest the final decision as to whether material should be accepted or rejected. It is therefore urgently requested that dentists refrain from sending actual exhibits as no responsibility whatsoever can be accepted for safe-keeping at this stage.

F.D.I. Members in 48 Countries

The application for full membership by the Dental Society of El Salvador was unanimously approved by the General Assembly of the F.D.I., thus restoring the number of full members to 53. The resignation of the All India Dental Association on financial grounds had reduced the number to 52. The F.D.I. also has seven corresponding members. Supporting membership in 37 countries totalled 3,771 on June 2nd 1960, but 796 members from 1959 had not as yet renewed membership.

F.D.I. Resolution on Fluoridation

The General Assembly of the F.D.I. noted that considerable progress had been made with the fluoridation of public water supplies since the F.D.I. had affirmed its policy towards fluoridation in Brussels in 1951 and reaffirmed it in Oslo in 1953. The Assembly therefore adopted the following new resolution:

Whereas, the scientific evidence supporting the safety, effectiveness and practicability of fluoridating public water supplies in order to reduce the incidence of dental caries is now being considered by governments and communities in many parts of the world so that they may bring this benefit to the population of their countries and communities, and

Whereas, the Expert Committee convened by the World Health Organization has recommended the adoption of fluoridation measures throughout the world, Therefore be it resolved, that the fluoridation of public water supplies be commended to all public authorities as the most effective public health measure available for reducing safely and economically the incidence of dental caries, particularly in the younger age group.

W.H.O. Seminar on Dental Health Services for Children

The development and improvement of dental health services for children were discussed at a seminar held in Gothenburg, Sweden, April 20-27, 1960, by the W.H.O. Regional Office for Europe. Forty-two dentists from twenty-six European countries took part and fourteen temporary advisers had prepared papers for discussion.

The F.D.I. was represented by Professor P. O. Pedersen, president of the Commission on Dental Research and Dr. H. Freihof, president of the Commission of Public Dental Health Services. The treasurer, Dr. Stork, was present as an observer from the F.D.I. Regional Commission for Europe.

Among the topics discussed were: caries prevention; the number of hours a dentist can work per day in the childrens' dental health service; the number of children for whom he would be able to provide adequate care; the priorities in a dental health service in view of the shortage of dental personnel; auxiliary personnel; fluoridation of drinking water and other mass preventive measures against caries; improvement of dental health education; research; and undergraduate and post-graduate training in paedodontics and orthodontics.

The subject was divided into four main topics: 1. Curative Aspects of Child Dental Health. 2. Preventive Aspects of Child Dental Health, Including Dental Health Education. 3. Administration and Organization of Child Dental Health Services. 4. Teaching and Training in Paedodontics.

During the Seminar the participants visited dental clinics of the Swedish dental services in a rural area and in the city of Gothenburg. A visit was also paid to the Gothenburg School for Technicians and Dental Chairside Assistants. Following the meeting in Gothenburg visits were organized to the Eastman Dental Institute and the Royal Dental School in Stockholm. In the Eastman Institute lectures were given on the treatment of traumatic injuries to children's teeth. Lectures in the Royal Dental School dealt with the recording of dental caries data. Participants also attended lectures by Professor Y. Ericsson on the Use of Radioactive Isotope F18 for Research in Fluoride Metabolism and by Professor W. Armstrong, a guest, on The Health and Safety Aspects of Water Fluoridation and other Aspects of the Use of Fluorides for Caries Prevention.

U.K. Training School for Dental Auxiliaries

This new school for dental auxiliaries (operative dental nurses) was scheduled to

open at New Cross, London, on October 3rd, 1960. The school was established by the General Dental Council, who were required by the Privy Council, in accordance with the Dentists' Act, 1957, to carry out an experimental scheme for the training and employment of ancillary dental workers who are permitted to fill teeth and extract deciduous teeth in the dental services of hospitals and local authorities in the United Kingdom. The object is to ascertain the value of such dental auxiliaries to the community, and it is anticipated that four to five years will elapse before adequate information has been obtained from which to evaluate the results.

The course extends over two years and includes lectures, demonstrations, tutorials, instruction on manikins and about 650 hours of clinical practice. The staff consists of the director of the school, J. V. Bingay, L.D.S., three dentists and three tutors trained in New Zealand under the School Dental Nurses Scheme. Additional professional staff may be recruited when the school subsequently reaches its capacity of 120 students at the beginning of the second year. A warden will be responsible for the general welfare of the students and matters concerning the domestic economy of the school. Clerical and other staff will be appointed as required.

Out of a total of 1,100 applications submitted, 60 students were selected for the course commencing in October 1960. Student dental auxiliaries must possess the General Certificate of Education or an equivalent certificate showing a satisfactory standard of education. They are recruited from all parts of the United Kingdom.

J. V. Bingay
B.D.J.

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British Medical Association Supports Fluoridation

At the annual representative meeting of the B.M.A. held in Torquay, England in June 1960, the following resolution was adopted: "That this meeting strongly urges that the fluoridation projects now in progress in the United Kingdom be extended where necessary and expedited." The motion was supported on three grounds: 1. The present high incidence of dental caries; 2. the great weight of scientific evidence from leading authorities in favour of fluoridation; 3. The fact that it was an economic, safe procedure which was preferable to all other methods.

Dr. Patton Named A.D.A. President

Dr. Charles H. Patton of Philadelphia was recently installed as president of the Ameri-

can Dental Association at the 101st Annual Session held at Los Angeles, California. 17,129 dentists and others registered for the meeting, making this one of the largest attendances for an annual A.D.A. session.

Nearly Half-million More Americans Receiving Fluoridated Water

Nearly half a million additional persons in the United States began receiving fluoridated water during the month of July, according to the U.S. Public Health Service. Mr. Gale E. Coons, chief of the health education and information section of the P.H.S. Division of Dental Public Health, reported that as of August 2, a total of 1,932 communities with a population of 37,487,682 was participating in fluoridation programs. The communities are served by 1,091 water systems.

Dr. Dean repudiates "anti" claims; reaffirms stand on fluoridation

Advertisements and statements by anti-fluoridationists claiming Dr. H. Trendley Dean no longer considers fluoridation safe or effective have been vigorously repudiated by the former director of the National Institute of Dental Research and former secretary of the American Dental Association's Council on Dental Research. In a letter to Mrs. L. S. Stevens, chairman of the Ohio Pure Water Association, Dr. Dean wrote that "I still strongly urge all communities to fluoridate their water supplies. The procedure is safe and of significant benefit in reducing dental decay."

The letter was in response to the Ohio antifluoridation association's advertisement which has appeared in a number of newspapers throughout the country, erroneously purporting a change of attitude on the part of the pioneer in fluoridation research. Dr. Dean has sent copies of the letter, which is as follows, to some of the newspapers carrying the advertisement:

"I have been shown an advertisement sponsored by the Chairman, Ohio Pure Water Association, which appeared in the Akron Beacon Journal on Sunday, August 28, 1960. This advertisement claims that the testimony I presented before a master in chancery in the case of Alice Shuringa, et al. v. City of Chicago, repudiates the strong support I have always given to fluoridation of community water supplies. The advertisement also claims that other testimony of mine in 1955 shows that I admitted that I deliberately misrepresented the safety and effectiveness of fluoridation.

"There is no legitimate basis for these

claims. I still strongly urge all communities to fluoridate their water supplies. The procedure is safe and of significant benefit in reducing dental decay. There is nothing in the testimony I gave in California in 1955 or in Chicago in 1960 which indicates otherwise.

"The advertisement which carries your name as Chairman, Ohio Pure Water Association, is a completely unjustified attack upon my professional reputation and my standing in the field of scientific research.

"I am requesting the Akron Beacon Journal to publish a retraction. It is suggested that you and your organization do likewise."

Most Extensive U.S. Dental Survey Ever Urges New Health Goals

Results of the most extensive survey ever made of dentistry in the United States were announced on October 16th at the 40th Annual Convocation of the American College of Dentists. Recommendations centred on increased capital expenditure for dental schools, construction of new dental schools, fluoridation of communal water supplies wherever feasible, greatly augmented dental care for school children and more extensive dental research.

Carried out by the American Council on Education, the Survey was financed by grants from the W. K. Kellogg Foundation, the Rockefeller Brothers Fund, the Louis W. and Maud Hill Family Foundation and the American Dental Association. Dr. John A. Perkins, president of the University of Delaware, was chairman of the commission that directed the survey, which took more than two years to complete.

In the course of the survey, four underlying factors in the United States were outlined:

—The American people generally set an astonishingly low priority on dental care;

—There is an increasing need for more dentists to care for the nation's burgeoning population;

—Despite the country's great wealth, some of its citizens are unable to pay for the comprehensive dental care that is desirable;

—More extensive use must be made of the auxiliaries in the dental field: the dental hygienist, the dental assistant and the dental laboratory technician.

The largest financial item in the recommendations of the Survey were concerned with dental care of children. It is estimated that the program urged would cost \$120 million the first year, levelling off within twelve years to an annual expenditure of \$940 million.

In the area of dental research, the Commission suggested that present funds, about \$45 million, be increased to \$1 billion.

The original prospectus of the Survey, prepared by the American Dental Association, said that the objective should be to "assess the achievement, resources, and potentialities of dentistry with a view to determining the desirable areas of future growth and development" for the purpose of "describing and recommending improved approaches, techniques, and methods for the better provision of an essential health service to the American people."

Speakers presenting the Survey report at the American College of Dentists convocation were: Dr. Byron S. Hollinshead, director of the Survey; Dr. Robert G. Kesel, dental practice and dental research; Dr. William R. Mann, dental education, and Dr. Wesley O. Young, dental health.

Dr. D. J. Galagan Heads New United States P.H.S. Division

Dr. Donald J. Galagan of Washington, D.C., assistant chief of the Division of Dental Public Health since 1953, has been selected to head the new Division of Dental Public Health and Resources. The division is in the process of being formally established under the Public Health Service reorganization program.

Dr. Galagan, a P.H.S. career officer, is a native of Iowa and was graduated from the State University of Iowa College of Dentistry in 1937. He interned at San Francisco Hospital, served in a variety of clinical, research and public health capacities and in 1950 received a Master of Public Health degree from the University of California. Dr. Galagan is a diplomate and secretary-treasurer of the American Board of Dental Public Health.

Through original research, Dr. Galagan has contributed fundamental knowledge regarding the fluoridation of public water supplies and topical fluoride application. He has also provided stimulation and leadership in dental health programs, generally, and in such special areas as dental care of the chronically ill.

Dr. Galagan is a consultant to the American Dental Association's Council on Dental Health.

Columbia University to Publish a New Journal

The School of Dental and Oral Surgery of Columbia University announces the inauguration of a quarterly publication called the "Journal of Clinical Stomatology Conferences."

The journal contains reports and discussions of cases, most of which were prepared by dental students and presented at regularly held Clinical Stomatology conferences.

The new journal will be distributed without charge to students and faculty of the Columbia University Dental School, libraries of all dental and medical colleges in the United States and Canada, the dental services of Metropolitan New York hospitals, and the dental services of all other hospitals approved by the American Dental Association.

The editor of this new publication is Dr. Austin H. Kutscher.

U.S. Manufacturing Firm Begins Dental Insurance Coverage

The Kerr Manufacturing Co., a Detroit, Mich., manufacturer of dental supplies and materials has become the second firm in the United States to provide employees and dependents with insurance benefits for comprehensive dental care.

The pioneer firm in providing such insurance was The Dentists' Supply Company of New York, located in York, Pa., which began its coverage in August, 1959. In both cases, the insuring agent is the Continental Casualty Company of Chicago, and technical advice was given by the American Dental Association.

In making the announcement, Mr. Kerr, president of the Company, expressed belief that "dental insurance is destined soon to take its place with hospital and medical insurance protection as an accepted need of every family." Dental disorders, he pointed out, "are the most prevalent of all diseases." Health authorities estimate that 97 per cent of all Americans suffer from some form of dental disease at one time or another during their lifetime.

In the plan adopted by the Kerr Company, to take effect Dec. 1, 1961, the company will pay the full premium for the dental insurance plan. In the first year that the employee and his dependents receive dental services, they pay the first \$25.00 of expense incurred for each of them, with a ceiling of \$75.00.

For dental expenses in excess of this amount, the insurance company will pay 80 per cent of the cost, with maximums ranging from \$200 per person in the first year to \$400 per person in the third year. Family maximums are from \$500 the first year to \$1,000 the third year. Cost of the plan to the Kerr firm is an estimated 4 cents per hour per employee.

The plan covers all types of dental service. Routine oral examinations, x-rays and

prophylaxis (cleaning and scaling of teeth) are permitted at six-month intervals and no deductible amount is charged against these preventive services. The patient is free to go to any dentist of his choosing, and no prior arrangement between the dentist and the insurance company is required. There will be no fee schedules.

Swiss Dental Society Recommends Fluoridation

At its annual meeting in Lucerne, Switzerland, May 20-22, 1960, the general assembly of the Swiss Dental Society (S.S.O.) passed a resolution urgently requesting Swiss health authorities to take all necessary steps to make available as soon as possible to the total population, particularly children, the benefits of fluorides.

Windsor, Ontario Drug Prepayment Plan-based on a report from Canadian Press

A prepayment scheme for prescribed medicines, except vitamins, dietary supplements, insulin, diabetic products and patent medicines, was inaugurated in Windsor, Ontario, during the early summer of 1958. Canada's only prepaid drug scheme, Prescription Services Inc., is a non-profit organization chartered in the province of Ontario.

According to the president and founder, W. A. Wilkinson of Windsor, the "Green Shield Plan" of Prescription Services Inc. has more than 1,600 subscribers who each pay \$1.90 a month for the authorized prescribed medicines upon presentation of a membership card and 35 cents for each prescription.



"MY HUSBAND IS ALSO A DENTIST — BUT HE'S TOO BUSY TO SEE ME!"

BOOK REVIEWS

Endodontics

Prepared by: Harry J. Healey, A.B.,
D.D.S., M.S.D., F.A.C.D.

Published by: The C. V. Mosby Co.

Pages: 370. 148 Figures. Price: \$7.75

This book is an outstanding contribution to the specialty of endodontics. Not only is it valuable to the specialist in endodontics, but it is just as useful an addition to the library of the general practitioner, as it is written in such logical and practical sequence as to make it easy to follow and to assimilate. It bespeaks the wealth of practical clinical experience of the author, who has been practicing and teaching endodontics for many years. Dr. Healey is chairman, Division of Endodontics of Indiana University School of Dentistry, and the material in his book is taken from his postgraduate lecture series.

The book begins logically with an excellent chapter on the differential diagnosis of odontalgia, outlining the divisions clearly and suggesting specific emergency treatment. Dr. Healey points out the best methods of differentiation between pulpitis, pericementitis, and pericementitis of non-pulpal origin. Pains not associated with strictly dental origin are described—such as sinusitis, painful sialadenitis, neuralgias, and pains of psychosomatic origin.

The treatment aspect of endodontics is well covered and amply illustrated. Dr. Healey does not take a biased view of treatment and obliteration of root canals, but describes various widely-accepted techniques. He does stress the oft repeated axiom in endodontics: "Sterilization follows only after the root canal has been thoroughly cleansed and prepared by biochemical and chemical means."

Considerable space is devoted to prescription writing as Dr. Healey believes that the dentist should be prepared to treat the patient in the best way possible, resorting to the aid of the physician only where this is definitely indicated.

There is an excellent chapter on the restoration of teeth after endodontic procedures. He stresses the need of proper follow-up to endodontics by restoration so that the effort spent on saving the tooth through endodontic procedures will not be wasted due to improper restoration.

The concluding chapter consists of a discussion of the present-day status of pulp canal microbiology with an evaluation of, and the philosophy behind, the various forms of treatment. This in itself is a valuable contribution to endodontics.

E. C. Aho.

Minor Tooth Movement in General Practice

Prepared by: Leonard Hirschfeld, B.A.,
D.D.S.

Published by: The C. V. Mosby Co.

Pages: 332. 293 Illustrations. Price: \$12

Ninety per cent of the adults with natural dentition have malocclusion. This functional disturbance is a contributing factor in periodontal disease.

In localized areas the dentist could alleviate these conditions by minor tooth movements. "The term minor does not mean simple, it merely indicates the short distance the teeth are moved and the small number of teeth involved. Some of the procedures are simple to perform and some are not, but without a proper understanding of the techniques and their limitations, the simplest method can become complex and unsuccessful."

The author is in general practice and the basic fundamentals of case analysis, growth, development and classification guidance, are explained step by step, as one practitioner to another, (each statement clearly marked by reference to books, articles and papers published on the subject) thus avoiding specialization, the fault of many of the text books written by the specialist for the general practitioner.

The author explains the various tooth movements using elastics, wire, grass line and removable appliances. There are times when the presentation is likened to a classroom lecture. The ideal conditions and adult co-operation are, in fact, the exception.

The majority of the removable appliances shown are acrylic with half round clasps, but retention with this type of clasp is wanting. The modified arrow head by Adams is the key to retention with the removable appliance and deserves more than a mere mention and a photograph.

The book is excellent as a reference. The

techniques, although described for adults, may easily be used on children. The author must be commended on the time and effort required in gathering material for this book.

T. J. Hackie

The Classification and Treatment of Injuries to the Teeth of Children

Prepared by: Roy G. Ellis

Published by: The Year Book Publishers Inc.

Pages: 250 — Illustrated Price: \$4.50

There is little difference between the third and the fourth editions. An attempt has been made to include the results of the most recent works in this field. However, some of the more recent works in pulp healing have not been mentioned in the text nor included in the bibliography. This is the only negative comment.

On the whole, the book is presented in an attractive fashion. The general outline and the details of the chapters are well planned and written. The text is interesting and very handy for every-day consultation.

It includes chapters on: small and extensive fractures of teeth; pulp capping, pulpotomy and pulpectomy; lost teeth following trauma; root fractures; displacement of teeth; and a special chapter is included on injuries to deciduous teeth.

In its present form, this book is recom-

mended for every dental practitioner whatever his interests.

Georges Perreault

Periodontal Therapy

Prepared by: H. M. Goldman, S. Schluger, L. Fox and D. W. Cohen.

Published by: The C. V. Mosby Co.

Pages: 656, 252 Illustrations and 117 Plates.

Price: \$18.75

This is a comprehensive text which includes most of the current techniques of periodontal therapy.

Diagnosis and treatment planning are given justifiable emphasis. "Specific application of each technique to the particular lesion it is designed to correct," is stressed. The basic concept of treatment outlined in this text is not only to correct the deformity but to alter the environment so that the deformity will remain corrected.

No attempt has been made to explain basic periodontal phenomena at the microscopic level and no description of the oral signs and symptoms or treatment of dermatologic diseases is included.

The book is designed primarily for the clinician with step by step procedures well described and illustrated by excellent diagrams and photographs.

Alan Chapple.

THE LIBRARY

ADDITIONS

ALLING, C. C. Removal of fractured roots. (Practical Dental Monographs, Sept. 1960.) 29p. illus.

ANDERSON, G. M. Practical orthodontics. 9th ed. St. Louis, Mosby, 1960. 738p. illus. \$18.00.

AVERY, J. K. ed., and others. Report writing in dentistry; a teaching outline. Ann Arbor, The Overbeck Co., Pubs., 1960. 70p. \$2.25.

FREDERICK, P. M. — TOWNER, C. The office assistant in medical practice. 2d ed. Philadelphia, Saunders, 1960. 407p. illus. \$5.25.

GROLLMAN, A. Pharmacology and therapeutics. 4th ed. Philadelphia, Lea & Febiger, 1960. 1079p. illus. \$12.50.

JAWETZ — MELNICK — ADELBERG. Review of medical microbiology. Los Altos, Calif., Lange Medical Publications, 1960. 376p. illus. \$5.00.

- MANHOLD, J. H. — BOLDEN, T. E. Outline of pathology; a complete outline to serve students as a basis study. Philadelphia, Saunders, 1960. 340p. \$4.75.
- MASON — WATTS — PERCHARD. Hypnotism for medical and dental practitioners. London, Secker & Warburg, 1960. 223p. \$5.40.
- PATTISON, F. L. M. Toxic aliphatic fluorine compounds. New York, Elsevier Pub. Co., 1959. 227p. \$3.50.
- PINDBORG, J. J. — MARVITZ, L. The dentist in art. Chicago, Quadrangle Books, 1960. 144p. illus. \$12.50.
- SCHOOL CAREERS DIRECTORY 1960 CHOISISSEZ VOTRE CARRIERE. Montreal, Cornmarket Press Limited, 1960. 223p. \$3.00.
- TYLMAN, S. D. — TYLMAN, S. G. Theory and practice of crown and bridge prosthodontics. 4th ed. 1960. 1063p. illus. \$17.50.
- WILSON, A. — SCHILD, H. O. Applied pharmacology. 9th ed. London, Churchill, 1959. 750p. illus. \$9.00.

IN MEMORIAM

Herbert Stanley Allen

Dr. Herbert Stanley Allen of Picton, Ontario died on October 5th. He was 73.

Dr. Allen was born at Warkworth, Ontario in 1887 and received his early education there. He graduated from the Royal College of Dental Surgeons of Ontario in 1912 and practised until 1915 in Tweed, Ontario. He joined the Canadian Army in September 1915 and was a private and corporal in the 80th Battalion, C.E.F. From November 1915 he was sergeant, lieutenant and then captain in the Canadian Army Dental Corps until 1920. In 1920 he returned to Tweed and remained in practice there until 1958 when he moved to Brighton, remaining there until his retirement in January 1960.

Dr. Allen was secretary of the Warkworth School Board from 1927 to 1940. He was past master Percy Lodge No. 161, A.F. & A.M., and past principal Warkworth Chapter No. 110, Royal Arch Masons.

He is survived by his wife.

Dermont Murray Rouse

Dr. Dermont Murray Rouse of Bancroft, Ontario died on October 31, 1960. He was in his 60th year.

Dr. Rouse was born in Bancroft in 1899. He graduated from the Royal College of Surgeons of Ontario in 1922.

He is survived by his brother, M. F. Rouse of Bancroft.

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1961	Saskatoon, Saskatchewan	June 4th-7th
1962	Vancouver, British Columbia	June 3rd-6th
1963	Toronto, Ontario	May 19th-22nd
1964	Edmonton, Alberta	June 28th-July 1st
1965	Quebec City, Quebec	May 30th-June 2nd
1967	Toronto, Ontario	May
	(Centennial Celebration of Dentistry in Canada)	

FUTURE EVENTS

Date	Function	Location	Officer	Address
May 4-6, 1961	British Columbia Dental Association Convention	Aquatic Club, Kelowna, B.C.	Dr. W. Ross Upton, Exec. Sec.,	Georgia Medical Dental Bldg., 925 West Georgia St., Vancouver 1, B.C.
May 21-24, 1961	Ontario Dental Association Convention	Royal York Hotel, Toronto, Ontario	Mrs. A. Durham,	230 St. George St., Toronto 5, Ont.
June 4-7, 1961	Western Canada Dental Society Convention	Bessborough Hotel, Saskatoon, Sask.	Dr. N. E. Gropper,	704 Canada Bldg., Saskatoon, Sask.

POSTGRADUATE COURSES AND REFRESHER COURSES

TORONTO

Short postgraduate courses during the session 1960-61.

Paedodontics—January 9, 10, 1961
Endodontics—March 1, 2, 3, 1961
Orthodontics—March 6-10, 1961
Dental Radiology—March 13-17, 1961
Oral Surgery—April 24-28, 1961
Periodontics—May 8-12, 1961

For further information please write to: The Chairman, Division of Postgraduate Studies, Faculty of Dentistry, 124 Edward St., Toronto 2, Ont.

DALHOUSIE—The Department of Prosthodontics, Faculty of Dentistry, Dalhousie University will present a postgraduate course in COMPLETE DENTURE PROSTHODONTICS each Tuesday 9.30 a.m. to 5.30 p.m. from November 29 to December 20, 1960 and each Tuesday afternoon from January 10 to February 7, 1961. The first phase of the course will consist of didactic instruction with practical demonstrations of various techniques in all phases of complete denture construction, with special emphasis on lower impression techniques, and newer concepts of aesthetic requirements. The second phase will consist of five half-days of participation in performing the techniques presented in the first phase. Patients and supplies will be furnished. The course will be directed by Dr. K. M. Kerr and associates. Tuition fee \$100.

The Department of Prosthodontics will present a postgraduate course in REMOVABLE PARTIAL DENTURE CONSTRUCTION, February 27 to March 3, 1961. This will be a comprehensive course of lectures, seminars and demonstrations. Demonstrations will include surveying, designing, waxing and duplication. Special emphasis will be placed on functional relining technique. The course will be directed by Dr. K. M. Kerr and Associates. Dr. H. W. Hart, Professor of Prosthodontics of the University of Manitoba, will be a guest lecturer. Tuition fee \$75.

The Department of Endodontics will present a postgraduate course in ENDODONTICS, January 23-25, 1961. This course will consist of lectures, films and clinical demonstrations covering all phases

of root canal therapy including acute and chronic conditions, apical pathology, fistulae, traumatic injuries, etc. Dr. D. C. Eaton will direct this course. Tuition fee \$50.

The Department of Oral Surgery will present a postgraduate course in ORAL SURGERY, February 20 to 24, 1961. This is a basic, practical course covering impactions, cysts, infections, antibiotics, etc. Hospital procedures will be discussed and, if possible, hospitalized patients will be treated so that participants may receive practical operating room instruction. The course will be directed by Dr. A. E. Hoffman and Associates, Dr. Albert Antoni, Associate Professor of Oral Surgery of the University of Toronto, will be a guest lecturer. Tuition fee \$100.

Inquiries and requests for application forms should be directed to the Dean, Faculty of Dentistry, Dalhousie University, Halifax, Nova Scotia.

A.A.D. ANAESTHESIOLOGY, Chicago— February 5, 1961—American Ass'n. Dental Anaesthesiology (Ill. Section).

TEMPLE UNIVERSITY, Philadelphia—Mar. 1, 1961—High Speed in Operative Dentistry.

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| " | " | " | —Jan. 9-13, 1961—Implant Dentures |
| " | " | " | —Feb. 1-May 7, 1961—Anatomy: Head and Neck |
| " | " | " | —Feb. 6-11, 1961—Advanced Fixed Prosthesis |
| " | " | " | —Feb. 14-Apr. 18, 1961—Present Day Periodontal Practice |
| " | " | " | —Feb. 18, 1961—Practice Administration |
| " | " | " | —Feb. 20-24, 1961—Periodontal Prosthesis |
| " | " | " | —Mar. 3-4, 1961—Electronic Electrosurgery |
| " | " | " | —Mar. 6-11, 1961—Immediate Surgical Endodontics |
| " | " | " | —Mar. 25-29, 1961—Surgery in Periodontal Therapy |
| " | " | " | —May 8-12, 1961—Full Denture Prosthesis |
| " | " | " | —Sept. 7, 1961—Graduate Orthodontics |

TUFTS UNIVERSITY, Boston—Sept. 1961—2 Research Fellowships in Periodontology

Other information concerning dental meetings outside Canada is available at C.D.A. Headquarters upon request.

The Medical Exhibitors Association is now compiling its 1961 Tentative Schedule of Conventions for its members — which comprises the majority of exhibitors at medical and allied meetings — and would like those officers concerned with planning the details for next year's meetings, to forward details. This applies particularly to exhibit chairmen.

Information dealing with the location of the meeting, name of hotel or hall, size and cost of booths, society member in charge, 1960 attendance and anticipated 1961 attendance, and other pertinent details, should be sent to D. R. Weston, Executive Secretary, Medical Exhibitors Association, 37 King Street East, Toronto 1, Ontario.

L'Association Dentaire Canadienne.

Volume 26

Numéro 12

décembre 1960

JOURNAL

Un améloblastome de durée prolongée

par WILLIAM B. DONOHUE*, D.D.S., Montréal

Les améloblastomes sont des tumeurs dérivant de l'épithélium possédant un potentiel odontogénique, et plus particulièrement de l'organe de l'émail, de ses dérivés et de ses reliefs. Dans certains cas, ils peuvent aussi dériver de kystes dentaires et de fragments de cellules épithéliales dans les régions des mâchoires où les dents se forment. Ils sont considérés, d'une façon générale, comme des tumeurs bénignes et, à moins qu'ils n'aient été complètement extirpés, lors du premier traitement, leur incidence de récurrence est élevée. Le cas présenté ci-après le démontre d'une façon dramatique.

Le patient, âgé de quatre-vingt-neuf ans, présentait sur le côté droit de la mandibule, une enflure de grosseur

modérée qui rendait la face légèrement asymétrique; un élargissement de l'os alvéolaire provoquait une perturbation de la fonction masticatoire.

En 1906, le patient avait été traité pour une tumeur de la mâchoire inférieure. Environ quinze ans plus tard, il constata une légère enflure intraorale du côté droit de la mandibule; comme la lésion n'était pas douloureuse et ne causait que peu de troubles, il n'y porta aucune attention.

Cependant, au cours des années qui suivirent, la tumeur s'accrut en dimension et, en 1954, une fistule s'ouvrit dans la cavité buccale. Le patient fut admis à l'hôpital où, après une biopsie, un diagnostic d'améloblastome fut établi; un curetage fut alors pratiqué. Un an plus tard, nouvelle enflure du côté droit de la mandibule. La masse, contenant environ 25 cc de liquide ambré, fut aspirée.

*Département de pathologie buccale, Faculté de chirurgie dentaire, Université de Montréal; département dentaire, Division de chirurgie buccale de l'hôpital St. Mary's et de l'hôpital Queen Elizabeth; consultant à l'hôpital Notre-Dame.

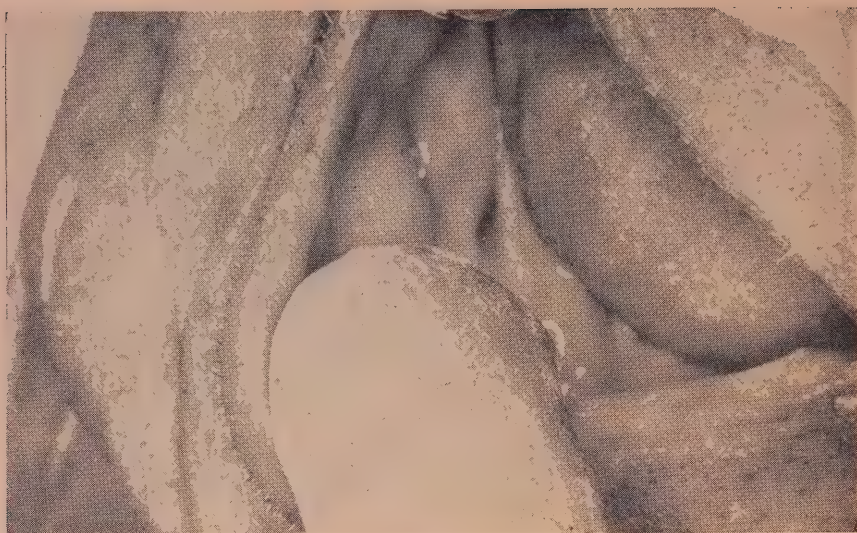


FIGURE 1

Photographie intraorale montrant l'enflure de la portion rétromolaire.

En novembre 1956, la tumeur ayant de nouveau augmenté de taille, le patient fut réadmis à l'hôpital pour un second curetage. En 1958, quand le patient fut examiné par l'auteur, une nouvelle enflure de l'os alvéolaire, toujours du même côté, montrait que les dimensions de la lésion s'élevaient de la région rétromolaire jusqu'aux incisives, (fig. 1). La masse attachée à l'os était de consistance molle, semi-liquide.

L'examen physique ne fournit aucune information quant à la nature de la tumeur, si ce n'est un emphysème et une hypertension qui contre-indiquait l'emploi de l'anesthésie générale.

Les radiographies prises à cette époque montraient plusieurs espaces s'étendant d'une façon interrompue de la région rétromolaire à celle des incisives. (Fig. 2).

L'anesthésie générale étant contre-indiquée, la résection de la tumeur fut accomplie sous anesthésie locale précédée d'une sédation. Lors de la résection du

néoplasme, on essaya de conserver autant d'os cortical lingual que possible. A l'exposition du corps de la mandibule, on constata la nature invasive de la tumeur. (Fig. 3). Le patient subit remarquablement bien l'opération et fut congédié après une période d'observation, pour examens de contrôle à intervalles réguliers.

DISCUSSION

L'intérêt de ce cas réside dans son histoire qui s'échelonne sur plus de cinquante-deux années.

Les améloblastomes sont souvent caractérisés par des foyers secondaires de tissu néoplasique qui entourent la masse principale de la tumeur. Ces formations secondaires causent la récurrence tumorale; c'est pour cette raison qu'après un diagnostic définitif d'améloblastome, non seulement toute la tumeur doit être enlevée, mais aussi la couche d'os apparemment sain, qui tapisse la cavité. Ce sont ces foyers secondaires qui donnent, dans



FIGURE 2

Radiographie prise en 1959, montrant l'évolution de la tumeur dans la mandibule. Les contours des espaces transparents aux rayons-X ont été accentués. Noter l'envahissement de l'os cortical.



FIGURE 3

Exposition du corps de la mandibule; voie extraorale. On peut voir plusieurs espaces kystiques d'une teinte bleutée, faisant saillie à travers l'os cortical.

la radiographie, l'image d'alvéoles d'une ruche d'abeille. (Fig. 4) Cependant le diagnostic clinique ne peut être fait en se basant sur les radiographies seulement, parce qu'en certains cas, cette caractéristique radiographique est absente, et dans d'autres, l'apparence multiloculaire

peut être associée à des tumeurs autres que des améloblastomes.

L'aspiration est souvent employée pour établir cliniquement la présence d'une lésion kystique. Même si cette technique est excellente, elle n'exclue pas cependant la possibilité de tumeurs ayant à la fois

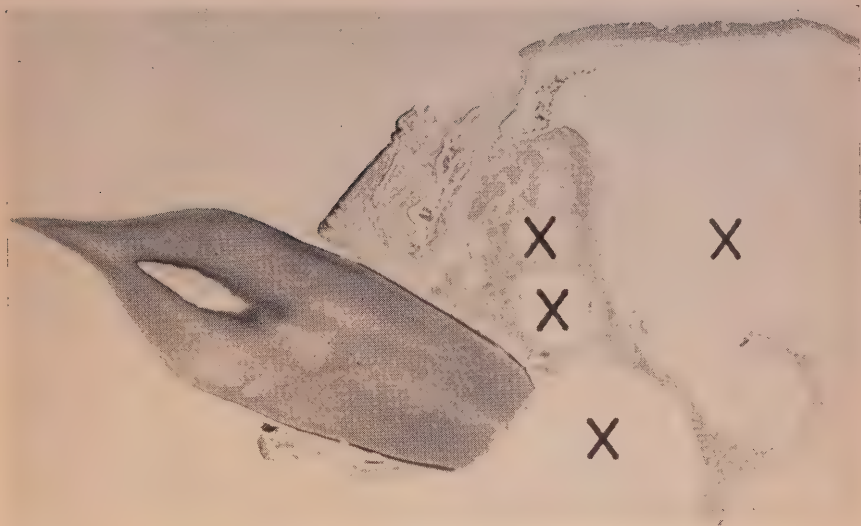


FIGURE 4

Section histologique d'un améloblastome kystique semblable à celui décrit dans le présent article. Les "X" représentent des cavités kystiques secondaires. Noter la résorption de la racine dentaire causée par l'accroissement de la tumeur.

les caractéristiques et de kyste et d'améloblastome. Même si du liquide peut être aspiré de la lésion, la tumeur devrait être complètement enlevée et soumise à l'examen histologique afin d'établir un diagnostic précis. De plus, un kyste dentaire, qui a été enlevé une fois et qui

récidive, s'est probablement différencié en un améloblastome.

SOMMAIRE

L'histoire d'un améloblastome, d'une survie d'au moins cinquante-deux années, est présentée.

SUITE 710-D,

EDIFICE SUN LIFE.

L'articulateur à charnière

par PAUL-E. POITRAS, D.D.S., Montréal

Styliste intelligent, Ambroise Paré (1517-1590) permettait d'imprimer, en 1575, ses œuvres complètes qui lui semblaient tellement au point qu'il croyait que les générations futures seraient incapables de les modifier.

Son occupation à perfectionner la chirurgie traumatique lui avait fait négliger la stomatologie.

Lorsqu'il avait à traiter des malades souffrant d'odontalgie, il s'inspirait de la "Grande chirurgie" de Guy de Chauliac qui conseillait aux médecins et aux barbiers-chirurgiens de laisser aux *dentateurs* le soin de soulager les douleurs dentaires, d'extraire les dents et, au besoin, de les remplacer. Dans les cas urgents, il recommandait aux consultants de cautériser les cavités dentaires au fer chaud; de tuer le vers, trouvé dans le canal de la dent, par des pansements à base d'ail et d'oignon.

Ambrose Paré voyait que l'homme ouvre et ferme la bouche, mais il ignorait tous les autres mouvements du maxillaire inférieur, les mouvements de propulsion, les mouvements latéraux: mouvements jugés nécessaires à l'adhérence d'un dentier complet.

Son érudition de quelques lois de l'esthétique et de la phonétique lui suffisait amplement. De ses expériences sans articulateur il avait trouvé qu'une feuille d'or ou d'argent d'un seizième de pouce, ajustée à une ouverture des muqueuses du palais, grâce à une éponge humectée de salive, augmentait de volume, adhérait mieux. Cette plaque suppléait à une partie de l'os de la voûte palatine, perdue à la suite soit d'une blessure d'une arquebuse, soit d'un ulcère syphilitique, soit d'une fissure d'un bec-de-lièvre et donnait à ces malheureux une vibration plus distincte des sons.

La ligature des artères, à laquelle il avait substitué la cautérisation dans l'amputation, était la confirmation de son travail consciencieux. Il n'avait pas à chercher des méthodes susceptibles de fixer des dents postiches. Son nom n'était-il pas vénéré pour cette opération?

Pierre Fauchard, homme de talent, espérait qu'un savoir superficiel de la sculpture, de l'horlogerie, de l'émaillerie, de la bijouterie réunis ensemble, que les connaissances de ses devanciers, de ses contemporains et les siennes, recueillis à la suite d'observations, permettraient à ses successeurs de mieux opérer dans la bouche, considérant que les rudiments de cette science étaient acquis sur les tréteaux, à traiter les badauds.

Des ouvrages techniques de la chirurgie dentaire, épars jusque-là, il construisit un faisceau de doctrine homogène duquel il rédigea "Le chirurgien-dentiste ou Traité des dents", édité en 1728, composé depuis 1723. Dans ce livre où il parle exclusivement des soins dentaires, il disserte principalement de la pathologie des dents, de la technique opératoire, de la prothèse buccale.

Sa grande hardiesse, son sens du vrai, l'autorisaient à lutter contre les charlatans qui étaient des marchands plus que des *experts pour les dents*. Juchés sur un théâtre, ils présentaient un spectacle, extraient gratuitement les dents et vendaient aux chalands, à gros prix, des panacées.

Les phases de la dentisterie furent si bien décrites que, pendant au-delà d'un siècle, le livre de Fauchard fût un des rares imprimés dentaires, reconnu par des gens qui désiraient voir les affections buccales, les extractions dentaires, les prothèses, être soignées par un homme de science et ne plus être laissées aux mains des saltim-

banques qui prétendaient guérir les malades incurables, lorsque les médecins avaient perdu l'espoir de les soulager.

Fauchard avait coordonné ses souvenirs, étudié une science ignorée, donné à la prothèse ses loisirs. Sans articulateur, il avait imaginé des ressorts qui tenaient en place les dentiers; il avait inventé une armature de lames flexibles, adaptée aux dents inférieures qui solidifiait le dentier supérieur.⁽¹⁾

J.-B. Gariot, en 1805, décrivait un appareil en plâtre de Paris, pour enregistrer, hors de la bouche, la distance des maxillaires. Voici son exposé des maquettes et de l'articulation centrale:

"On prend un morceau de cire à modeler et on l'ajuste dans l'espace destiné à être occupé par la pièce; ensuite, le patient mord à plusieurs reprises dans la cire: ceci fait, on enlève la cire avec beaucoup de précaution, pour ne pas la déformer. On délaie alors du plâtre avec de l'eau, et quand le mélange prend quelque consistance, on le place avec une cuillère sur une table, préalablement huilée. On dispose du plâtre sur une épaisseur d'environ huit lignes et sur une longueur déterminée par celle des modèles. La cire est mise en place sur le plâtre, comme elle était disposée dans la bouche, enfoncée de quelques lignes afin d'obtenir une excellente empreinte de sa base. On laisse sécher le tout une demi-heure. Alors, on pratique, à la partie postérieure, de petites cavités, en arrière de la cire, à environ un demi-pouce, en imprimant dans le plâtre l'extrémité du doigt. Après avoir badigeonné, avec une plume trempée dans l'huile, la surface du plâtre et de la cire, et particulièrement les cavités de repère, tout l'ensemble est

recouvert de plâtre frais, de huit lignes d'épaisseur, et mis à sécher. Quand le plâtre est presque durci, on le pare au couteau, en enlevant tout ce qui dépasse les modèles de cire. Puis au contact d'une flamme, on fait fondre la cire. Par ce procédé, on obtient une excellente production des surfaces que l'on veut appareiller. Les deux parties, qui ont servi pour former le modèle, peuvent être aisément séparées."

Gariot ne pensa jamais à présenter cette description comme une méthode originale. Il écrivait simplement qu'un modèle fait de plâtre de Paris pouvait servir à enregistrer la relation exacte des maxillaires pour avoir une articulation centrale extra-buccale.

Le bourrelet de cire (*mush-bite*) et les modèles des mâchoires, présentant le rapport entre les crêtes alvéolaires, donnèrent l'idée de manufacturer l'articulateur métallique à charnière qui fut d'un grand service à des générations d'odontotechniciens, occupés aux travaux de prothèse; de ce travail résultait peut-être une articulation centrale sans obtenir, nécessairement, un dentier fonctionnel.

L'articulateur à charnière eut l'avantage sur l'occluseur en plâtre de Gariot de permettre à l'opérateur d'exécuter certains mouvements de la mastication que l'ingéniosité des chercheurs se soit efforcée à perfectionner. L'édenté, dès le début de son infirmité, prend de mauvaises habitudes par des efforts inconscients pour remédier à l'absence de dents et offre de grandes difficultés à l'enregistrement des mâchoires; aussi il est doté souvent d'une prothèse défectueuse dont il s'accommode avec le temps.

Le premier articulateur, adaptable à tous les mouvements de la bouche, fut breveté, le 28 août 1840, par Thomas Evans, dentiste américain, vivant à Paris. Plus tard, en 1858, Bonwill exposa un articulateur anatomo-physiologique "lequel était, au dire du professeur Gysi, pourvu de chaque côté d'un trajet condylien horizontal et situé sur un plan sagittal." Ce nouvel articulateur, basé sur le

(1) Mathias-Gottfried Purmann de Breslau, Allemagne, vers 1684, préconisait l'utilisation des modèles de cire dans l'exécution de pièces de prothèse.

Philip Pfaff, vers 1756, dentiste auprès de Frédéric le Grand, recommandait l'emploi de maquettes de plâtre lorsqu'il voulait une occlusion centrale.

Les travaux de Pfaff étaient ignorés de Pierre Fauchard; je ne sais s'il connaissait les modèles de cire de Purmann.

triangle, fut amélioré par plusieurs individus dans l'espoir que leurs idées, plus faciles et plus pratiques, seraient reconnues et que leurs travaux sur les mouvements physiologiques soient susceptibles de donner des résultats supérieurs en ce qui concerne l'articulation.

Aujourd'hui, on trouve les occluseurs à charnière dans des musées, n'étant plus utiles. Les odontotechniciens aiment choisir des méthodes pratiques, aussi peu compliquées que possible, au détriment d'observations ordinaires. Il est prudent de ne pas juger d'une prothèse défec-tueuse, de l'insuccès d'un confrère. Des dentistes, d'excellents prothésistes ont eu

quelquefois un dentier mal réussi; pour-quoi pas vous?

La chirurgie dentaire a le devoir de traiter les dents malades, de les conserver, de ne les ôter qu'en dernier ressort. Res-pectons la denture de nos patients, ayant dans l'esprit ce précepte: "L'extraction isolée est une destruction et l'avulsion totale est une mutilation". De grâce, ne rendons pas nos patients infirmes volon-tairement, sauvons les dents. Une dent permanente enlevée se remplace par une prothèse, jamais elle ne repoussera. Soyons donc circonspects, ne nous laissons pas guider par le patient qui ignore les inconvénients des dentiers.

2043 rue Saint-Denis, Montréal 18.

Nouvelles de l'Association

Le docteur J. P. Whyte devient président

Le docteur James P. Whyte, de Swift Cur-rent, Saskatchewan, a été intronisé président de l'Association dentaire canadienne, le 26 septembre, à Ottawa, au cours de la réunion annuelle de l'A.D.C. Le docteur Whyte, qui a été intronisé par le docteur Harvey W. Reid, de Toronto, ancien président de l'A.D.C., succède au docteur William G. Mc-Intosh, de Toronto, qui détenait le poste depuis la réunion tenue à Halifax, en juin 1959.

Voici ce qu'écrivait le *Financial Post*, dans sa livraison du 8 octobre, au sujet de l'élection du docteur Whyte:

Le docteur James P. Whyte, de Swift Current, Saskatchewan, le nouveau prési-dent de l'Association dentaire canadienne, est chirurgien-dentiste honoraire de la Reine. Ces deux honneurs lui ont été décernés à cause de services distingués et prolongés, dans la vie civile et dans la vie militaire, de ses 39 années comme pra-ticien et de son dévouement comme officier de l'A.D.C.

Il devient le porte-parole des 5,780 dentistes du Canada au moment où la profession dentaire regarde son avenir avec anxiété, en songeant plus particuliè-rement à la pénurie de dentistes (un den-tiste pour 3,018 citoyens, quand il devrait y en avoir 1 pour 1,000). Le docteur Whyte envisage l'avenir avec confiance. Sa longue carrière lui inspire le courage

nécessaire. Il est né à Pembroke, Ont. et il fit ses études à l'Université de Toronto, où il obtint son diplôme de D.D.S. en 1921.

Il est d'une activité débordante. Il est ancien président et ancien officier d'or-ganismes dentaires provinciaux et locaux. Ses activités municipales comprennent un terme comme président du Bureau de Surveillance de la ville de Swift Current (1948-54) et huit ans comme échevin. Ancien commissaire de l'Association des Scouts, commandant de district de la Légion Canadienne, gouverneur du Club Kiwanis, ancien président de l'Association de Hockey Amateur de Saskatchewan, il est un franc-maçon actif (Grand First Principal, Saskatchewan Royal Arch Ma-sons, 1959). Son service militaire a com-mencé en 1928 (2e lieutenant, des Hussards Canadiens, 14e compagnie). Il a servi en Europe durant la seconde guerre mondiale, commandant la compagnie dentaire no 12. Il a pris sa retraite en 1954, avec le titre de colonel, après avoir agi comme com-mandant, durant huit ans, des services dentaires des Prairies.

L'A.D.C., sous la conduite du docteur Whyte, encouragera les Canadiens à prendre mieux soin de leurs dents. Pour les aider, l'A.D.C. a approuvé un plan-modèle de pré-paiements, a réitéré son attitude en faveur de la fluoration et donnera plus d'ampleur aux services auxiliaires.

Le Congrès national remporte un grand succès

Environ 600 dentistes, la plupart accompagnés de leurs épouses, ont fait du Congrès national de 1960 un grand succès tant au point de vue scientifique qu'au point de vue social. Le Congrès avait lieu au Château Laurier, à Ottawa. L'organisme dentaire qui recevait les congressistes était la Société dentaire de l'Est de l'Ontario.

L'événement principal a été le discours de l'Honorable Diefenbaker, qu'ont rapporté les journaux, la radio et la télévision. M. Diefenbaker, très occupé sur la scène internationale, revenait de son voyage historique aux Nations-Unies, à New York, pour tenir son engagement avec l'Association dentaire canadienne.

Le Comité du Congrès avait organisé un programme remarquable de conférences, de démonstrations, d'expositions commerciales et de réunions sociales. Le Conseil des Gouverneurs avait eu, avant le Congrès, quatre journées bien remplies de délibérations qui avaient eu lieu dans les salles de comité du Sénat, dans l'Edifice du Parlement.

Faits saillants de la réunion du Conseil des Gouverneurs

Les dentistes en plus grand nombre que jamais se sont rendus, comme observateurs, aux réunions du Conseil des Gouverneurs de l'A.D.C. qui ont eu lieu dans l'Edifice du Parlement, à Ottawa. Trente-cinq membres du Conseil et présidents de comités ont participé aux délibérations. Ces nouvelles et le Journal donneront un rapport plus détaillé des décisions du Conseil. Des rapports complets paraîtront dans les Délibérations de 1960 qui seront envoyées aux membres vers la mi-janvier.

Faits saillants:

- adoption d'une déclaration de politique sur la dissémination des services dentaires au Canada;
- approbation d'un plan-modèle de prépaiements;
- sanction de projets pour une enquête complète des facultés dentaires canadiennes, en 1960-61;
- approbation d'un rapport rapportant progrès sur une enquête nationale de santé dentaire;
- formation d'un comité national de recrutement sous la direction du Conseil d'Enseignement dentaire;
- revision et rajeunissement des règlements, rendant plus effectif le travail de certains comités, à qui on a donné, dans certains cas, de nouveaux noms;
- approbation du docteur F. A. French comme membre honoraire;
- approbation du projet de faire réaliser trois courts métrages pour la télévision;

- autorisation au Comité d'Immeuble d'étudier l'utilisation de l'édifice du Secrétariat en vue de l'expansion des services administratifs et de présenter un rapport sur le sujet, l'an prochain;
- autorisation de continuer d'étudier la possibilité de créer un organisme de certification des spécialistes au Canada;
- ré-affirmation de l'attitude de l'A.D.C. au sujet de la fluoruration;
- approbation pour l'organisation d'un bureau légal pour compléter le Bureau des Recherches économiques et celui des Renseignements au Public.
- Election du docteur William Miller au poste de président-élu.

Nomination d'un nouveau rédacteur

Le docteur Frank H. Compton a succédé, le 1er octobre, au docteur Edward R. W. Bilkey comme rédacteur du Journal de l'Association dentaire canadienne.

Le docteur Compton était directeur du Service d'Hygiène dentaire de la ville de Toronto. Après avoir fréquenté les écoles primaires d'Angleterre et de Suisse, le docteur Compton a reçu son baccalauréat en chirurgie dentaire à l'Université de Londres en 1947. Frank Compton, après avoir été interne à l'Hôpital Victoria de Montréal, a reçu son diplôme de D.D.S. de l'Université de Toronto en 1949 et, en 1953, celui en hygiène dentaire publique. Il a été officier en hygiène dentaire à Ottawa, avant d'accepter son poste à la ville de Toronto.

Il est chargé de cours spéciaux en hygiène dentaire publique à la faculté dentaire de l'Université de Toronto.

Le docteur Compton devient le premier rédacteur à consacrer tout son temps au Journal. Cette nomination a été ratifiée par le Conseil des Gouverneurs dans le but d'améliorer le Journal.

Le Conseil des Gouverneurs promulgue une politique au sujet des services dentaires au Canada.

Le Conseil des Gouverneurs de l'A.D.C. a adopté une nouvelle déclaration de politique intitulée "Dissémination des services dentaires au Canada". L'objectif de cette politique est de "répondre aux exigences du public pour des services dentaires, en produisant plus de services de bonne qualité à plus d'individus à un coût raisonnable." La déclaration de politique demande une compilation de statistiques adéquates sur les besoins et les demandes; des programmes actifs de recherches; l'application générale des mesures reconnues de prévention; l'augmentation des disponibilités pour former plus de dentistes et d'auxiliaires; le recrutement accéléré de dentistes et d'auxiliaires; l'augmentation du nombre des auxiliaires et

l'expansion des services qu'elles peuvent légalement prodiguer; l'établissement de systèmes d'assurances pour les services dentaires dirigés par la profession.

Un fascicule contenant cette déclaration de politique a été expédié à tous les membres de l'A.D.C.

Enquête dans les facultés dentaires

L'Université d'Alberta a été la première faculté canadienne à être visitée par la Commission pour son enquête de 1960-61. Cette Commission est présidée par M. A. C. Lewis, aviseur du Conseil d'Enseignement dentaire de l'A.D.C. et ancien doyen du Collège de Pédagogie d'Ontario. Le docteur Harvey W. Reid, qui est un praticien, est le second membre de la Commission; le troisième membre est, tour à tour, un des doyens des facultés dentaires du Canada.

Le docteur Lewis a visité, l'an dernier, chacune des universités pour aider les professeurs à établir leur programme d'enseignement. Cette année, la Commission se rendra compte de toutes les phases des programmes d'enseignement, des disponibilités physiques de chacune des facultés et d'autres questions pertinentes à l'enseignement dentaire. Cette enquête se fait, tous les cinq ans, dans le but d'accréditer les facultés canadiennes. La Commission d'Enquête composée des docteurs Lewis, Reid et R. G. Ellis a visité la faculté d'Edmonton à la fin d'octobre. La Commission, au cours des prochains cinq mois, se rendra à l'Université de Montréal, Dalhousie, McGill, Toronto et Manitoba. La Fondation Kellogg défraie les frais de ces visites et aussi ceux des conférences de pédagogie.

Rendez-vous chez le dentiste

Ce titre coiffait un éditorial publié au sujet de la profession dentaire dans le *Ottawa Journal*, livraison du 27 septembre 1960. En voici le texte:

"Sans démonstration exhubérante — une caractéristique de la profession dentaire — l'Association dentaire canadienne tient son congrès, cette semaine, à Ottawa. Les dentistes du Canada ne s'y sont pas rendus pour rencontrer des amis ou visiter la ville — quoi qu'il y en aient qui soient venus pour cela — mais ils sont à Ottawa imbus de leur responsabilité envers ceux, qui, parmi nous, pensent que des traitements dentaires sont faciles à obtenir — jusqu'à ce qu'il nous faille un rendez-vous! Le public est peut-être concient de la pénurie de dentistes, mais ce sont les dentistes qui s'efforcent d'augmenter leur nombre.

Trop souvent, le profane pense que les professions sont des domaines réservés où il est difficile d'entrer, pour ne pas nuire aux intérêts de leurs membres. Mais les délibérations du Conseil des Gouverneurs de l'Association dentaire canadienne ont montré que

cette exclusivité de la profession dentaire est en fait organisée pour la protection du public. Il n'y a que 307 places disponibles chaque année dans les facultés dentaires canadiennes; ce nombre a été atteint grâce aux sollicitations des dentistes. Il est facile de remplir toutes ces places. Mais la préoccupation de l'Association est d'avoir des étudiants de valeur qui vont relever le niveau de la dentisterie.

La difficulté à recruter de bons étudiants ne réside pas dans la concurrence que se font entre elles des professions lucratives et spectaculaires — mais — que les partisans de la médecine d'Etat en prennent note — dans la menace d'étatisation, qui enlèvera au dentiste son indépendance et sa liberté professionnelles.

Cependant, la dentisterie devrait encore attirer des jeunes gens et des jeunes filles doués pour ce travail et capables de soutenir la lutte. Le dentiste a toujours été un spécialiste qui consacre ses activités sur un organe du corps. Notre époque qui porte aux nues la spécialisation devrait trouver fascinant le travail méticuleux et précis du dentiste.

L'avenir de la dentisterie sera dévoilé au cours des conférences et des cliniques du congrès. Les techniques les plus récentes en orthodontie et en périodontie ne sont pas l'objet des manchettes des journaux, mais la recherche du parfait est à la longue plus importante que les considérations du jour sur le rôle des auxiliaires dentaires et sur la fluoruration."

Conférence nationale des Services de Santé d'Urgence

Cette réunion eut lieu au Collège de la Défense civile, à Arnprior du 16 au 18 novembre. Y assistaient des délégués des gouvernements fédéral et provinciaux et les secrétaires des plus importantes associations et organisation sanitaires du pays. Le but de cette conférence était d'exposer aux dirigeants du domaine de la santé la nouvelle politique du gouvernement au sujet du comportement de la nation en face d'un cataclysme national et de les mettre à date au sujet de la défense civile. Le secrétaire de l'Association dentaire canadienne assistait à cette assemblée.

En mars dernier, le premier ministre faisait une déclaration à la Chambre des Communes pour annoncer des projets en vue de réorganiser et de distribuer les responsabilités en matière de défense civile et d'organisation en cas d'urgence nationale. Plus tard, un ordre-en-conseil, émis en mai 1959, confiait aux provinces de plus grandes responsabilités pour les services médicaux, infirmiers, hospitaliers et sanitaires.

Le Ministère de la Santé nationale et du Bien-Etre social, comme l'indique l'ordre-en-conseil, garde la fonction de conseiller et d'aider les provinces et les municipalités et

autres dans l'organisation des services sanitaires d'urgence. Le Ministère participe aussi à l'élaboration des mesures d'urgence.

Le rôle du Ministère de la Défense nationale, dans l'organisation de l'urgence dans les régions qui sont sous sa juridiction, est à l'étude; il comportait des responsabilités médicales.

Ceux qui s'occupent de la mise en force de ces mesures d'urgence et les membres des professions de santé, depuis qu'ont été définies ces nouvelles responsabilités, sont intéressés à connaître les décisions prises par les services de santé.

Jusqu'à maintenant, le Service de Santé de la Défense civile s'occupait surtout de l'organisation des soins aux blessés, de la distribution des fournitures sanitaires d'urgence et de la coordination des disponibilités hospitalières au cours des premières heures qui suivraient une attaque nucléaire. Maintenant, ses responsabilités s'étendent sur une période de temps beaucoup plus longue, c'est-à-dire jusqu'à la phase de réhabilitation. Son travail englobe maintenant l'organisation des opérations poursuivies par les organismes de santé du gouvernement fédéral et des gouvernements des provinces; les mesures sanitaires à long terme prises pour la population qui survit au désastre; le maintien des facilités hospitalières et l'organisation d'une assistance similaire pour ses "catastrophes naturelles". L'appellation des "Services de Santé de la Défense civile" est changée pour celle des "Services d'Urgence de Santé". Les coordinateurs provinciaux de la Défense civile, après cette seconde conférence des ministres fédéraux et provinciaux, ont été mis au courant de ces divers changements. Les membres du Conseil de Santé du Dominion, qui s'étaient assemblés à Ottawa au cours de la semaine du 12 octobre 1959, furent informés de la nouvelle ampleur donnée à leurs termes de mandat et de la nomenclature des nouvelles divisions au sein des Services de Santé.

Le gouvernement fédéral accorde, sujet à approbation, son appui financier aux programmes provinciaux de défense civile dans une proportion de 75-25%. Ces octrois peuvent fort bien comprendre l'établissement d'organismes de santé et d'autres projets sanitaires dans une province. Le fédéral s'engage de plus à continuer son assistance technique aux provinces.

Le thème de la réunion était la conjugaison des efforts, car c'est la seule façon de réaliser quelque chose de concret au cours d'un état d'urgence. Il est inutile d'attendre qu'une catastrophe se produise; il faut s'organiser à l'avance.

La part confiée aux forces armées est peut-être l'item qui a subi le plus de changement dans cette nouvelle politique du gouvernement. Cette politique établit clairement que

les forces armées n'ont pas la responsabilité de la défense civile; celle-ci reste sous la juridiction du Ministère de la Santé nationale et du Bien-Etre social. Cependant les forces armées ont des devoirs spécifiques et ces fonctions sont de sonner l'alarme, d'indiquer les régions qui seront touchées par l'énergie nucléaire, d'établir le bilan des destructions et des victimes, de décider des périodes de ré-occupation et d'accomplir d'autres devoirs d'urgence immédiate. Ces modifications entraînent des changements dans la formation du personnel de l'armée; ces changements sont à s'opérer.

Immédiatement après une attaque, les unités civiles du personnel sanitaire prendront charge en compagnie des services de bien-être. Toute l'organisation que ces changements exigent a été réalisée et les dentistes connaîtront leurs responsabilités à mesure que les autorités provinciales et municipales mettront en acte la part qu'elles doivent maintenant jouer dans l'organisation de la défense civile.

Le Ministère fédéral de la Santé déclare que les fluorures abaissent le taux de la carie

Des chercheurs du gouvernement fédéral ont terminé leur travail de compilation des recherches, qui ont duré onze ans, au sujet des effets de l'eau fluorée sur les dents des enfants de trois municipalités d'Ontario; leurs constatations prouvent que la fluoration produit une baisse remarquable du taux de la carie dentaire.

Ces recherches ont commencé en 1948 et ont nécessité 50,000 examens des dents des enfants de Brantford, Stratford et Sarnia; elles fournissent maintenant un tableau complet des effets de la fluoration sur les dents permanentes et primaires de ces enfants.

Durant 42 ans, la ville de Stratford a utilisé une eau qui contient naturellement du fluor; Brantford a ajouté du fluor à son eau de consommation dans la proportion d'une partie de fluor pour un million de parties d'eau depuis 14 ans et la population de Sarnia boit de l'eau qui ne contient qu'une partie négligeable de fluor.

Le septième rapport de ces recherches, publié par le Ministère fédéral de la Santé, confirme les conclusions élaborées précédemment au sujet de l'utilité de la fluoration pour prévenir la carie dentaire. Les recherches étaient sous la direction du docteur H. K. Brown, consultant dentaire du Ministère de la Santé.

Le rapport tire quatre conclusions des examens effectués chez les enfants dont les âges se groupent entre 9 et 11 ans et entre 12 et 14 ans:

1. "Aucun doute ne subsiste au sujet de l'efficacité de l'eau à laquelle on a ajouté artificiellement du fluor—1 partie pour un

million de parties—pour abaisser considérablement le taux de la carie (cavités) chez les enfants nés après l'institution de cette mesure."

2. "Il n'y a essentiellement aucune différence dans la propriété de réduire la carie entre une eau naturellement fluorée et celle à laquelle on ajoute artificiellement du fluor."
3. "Nos recherches n'ont pas décelé d'effet nocif—ni d'ordre médical, ni dentaire, ni la profession médicale, ni la profession dentaire, ni les autorités sanitaires de Brantford ou de Stratford n'ont rapporté de ces effets nocifs."
4. "Il y a eu "une réduction notable et progressive de la carie dentaire chez les enfants de Brantford pour les âges concernés", depuis que cette ville a commencé à fluorer son eau, en 1945. Les enfants de Stratford sont peut-être légèrement mieux partagés au point de vue carie, mais la différence est négligeable."

Le rapport de cette expérience indique des modifications remarquables dans les pourcentages d'enfants de Brantford qui ont des dents permanentes indemnes de carie entre 1948 et 1959. Dans le groupe d'âge de 9 à 11 ans, seulement 5.7 pour cent des enfants avaient des dents permanentes saines en 1948; tandis qu'en 1959, 43.32 pour cent de ces enfants avaient des permanentes sans carie. Dans le groupe d'âges de 12 à 14 ans, le pourcentage est monté de 1.18 à 18.69. En comparaison, les pourcentages de Sarnia étaient de 6.13 dans le groupe d'âges de 9 à 11 ans en 1948 et, en 1959, ces pourcentages étaient de 8.06; les enfants de 12 à 14 ans avaient un pourcentage de 0.62, en 1948, et de 2.27, en 1959.

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PAGES EDITORIALES

Comité de médiation

Il y a certes des malentendus entre les dentistes et leurs clients pour une multitude de raisons. Malentendus qui dégènerent en frictions, en animosités. Ces mécontentes éloignent le patient d'un dentiste. Elles peuvent nuire aux bonnes relations extérieures qui doivent exister entre un corps professionnel et le public. L'homme a une tendance à généraliser le fait particulier; trop souvent, hélas, il établit un principe, une loi, d'une aventure isolée, surtout quand il se sent lui-même frustré dans ses droits.

L'analyse objective d'un malentendu entre un dentiste et son patient révèle presque toujours une erreur où les deux parties ont participé. Leurs relations, au début, partent d'un point identique: le malade veut se faire soigner; le thérapeute consent à le traiter. Il y a, à ce moment, intérêts communs faits de soumission mutuelle et de consentement respectif. Les relations qui existent entre le patient et son dentiste, pour de bons résultats, doivent se maintenir parallèles jusqu'à leur terminaison. Il arrive qu'au cours des traitements ces rapports perdent leur parallélisme; ils divergent en direction opposée sous l'action d'incompréhensions, d'ignorance, de fausse impression. Quand les deux intéressés veulent se rencontrer à nouveau—et il le faut bien—il y a des craquements, des heurts, des résistances: le conflit est né, chacun prend ses posi-

tions et, l'orgueil aidant, on dénature parfois les incidents.

Ces mésaventures sont pénibles et elles se produisent toujours trop fréquemment. Les causes? Tous les praticiens les connaissent. Chez eux, relevons l'esprit de lucre, la paresse, l'ignorance. Chez les patients, soulignons le manque de connaissances, la crainte, les exigences, la mesquinerie. Ce sont en somme les mêmes facteurs psychologiques, mais qui, par égoïsme, jouent en sens opposé. Tous les manuels de déontologie ou d'étiquette professionnelle, en établissant les règles qui doivent présider à la conduite du thérapeute envers son patient, donnent des recettes pour prévenir ces malentendus. Ces codes ne peuvent entrer dans tous les détails et citer tous les cas concrets. Reste au professionnel d'appliquer dans sa vie courante les préceptes qu'ils contiennent.

Une seule phrase les résume: "Ne fais pas aux autres ce que tu ne voudrais pas qu'on te fit". Mais, la nature humaine étant ce qu'elle est, les théories les plus solides ne pourront jamais prévenir tous les conflits. Il y en aura toujours, en nombre plus restreint peut-être, mais des dentistes et des patients se méprendront sur des intentions.

Ces malentendus créent des situations inténables où le dialogue est impossible.

Les deux parties s'évitent, ne se parlent plus et ont parfois recours à l'intervention d'une tierce personne qui est l'avocat (solution détestable).

C'est là qu'un comité de médiation, composé de dentistes honnêtes, bien intentionnés, ayant l'expérience de la vie et des hommes, pourrait intervenir, analyser les faits, juger du litige, suggérer des solutions, en un mot amener un rapprochement entre les deux intéressés.

Un dentiste, beaucoup plus qu'un homme de loi, peut comprendre l'esprit qui a régné au cours des relations entre un dentiste et son patient; il peut apprécier la valeur des traitements et les affections dont souffrait le malade; il peut juger—à condition d'être objectif—des

circonstances qui ont entouré et suivi l'accomplissement d'une série d'actes opératoires. Et si ce dentiste ou ce comité jouit de la confiance du corps professionnel auquel il appartient, s'il a une réputation à toute épreuve, s'il a une culture professionnelle perspicace et s'il est charitable (au sens large du mot), il pourra donner des conseils qui seront acceptés de tous ceux qui sont touchés par "l'affaire". Le Collège des Chirurgiens-Dentistes ferait bien de mettre sur pied un comité de médiation pour l'intérêt particulier de ses membres et pour le bon renom de notre groupement professionnel. On l'a fait dans d'autres provinces et on s'en déclare satisfait.

GERARD de MONTIGNY.

Nouvelles du Corps Dentaire Royal Canadien

Réunion de la Commission consultative auprès du C.R.D.C.

La première réunion de la Commission consultative formée de civils affectée au R.C.D.C. s'est tenue au Quartier général de l'Armée, au cours de l'après-midi du 26 septembre 1960. Six des huit membres de la Commission y assistèrent et furent accueillis par l'adjudant général, le major-général J. D. B. Smith, C.B.E., D.S.O., C.D. La Commission participa à un forum animé et instructif qui suivit la présentation de brèves causeries par des officiers de la Direction des Services dentaires dans lesquelles ils exposèrent les activités courantes du R.C.D.C., ainsi que ses projets pour l'avenir.

Milice du C.R.D.C. — Concours de compétence générale — 1960

Le Quartier-général de l'Armée a annoncé les résultats du concours de compétence générale (Milice) pour 1960. Ces résultats sont les suivants:

La 50e Unité des Services dentaires, dont le quartier-général se trouve à Halifax (N.-E.) et qui est commandée par le lieutenant-colonel G. C. McLeod, a été proclamée gagnante du trophée Moore attribué à l'unité de Milice jugée la plus compétente au cours de l'année d'instruction. La 50e Unité a droit à des félicitations pour avoir gagné ce trophée quatre années de suite.

Le trophée Trelford, attribué à l'unité qui se classe au second rang dans le concours, a été gagné par la 55e Unité des Services

dentaires (Milice), commandée par le lieutenant-colonel A. J. Harris et dont le quartier-général se trouve à London (Ont.).

La 61e Unité des Services dentaires (Milice), commandée par le lieutenant-colonel F. K. Currie et dont le quartier-général se trouve à Vancouver (C.-B.), a été jugée l'unité qui a fait le plus de progrès en compétence générale au cours de l'année d'instruction et a reçu en conséquence le trophée Memorial de l'Association dentaire de la Saskatchewan.

Le lieutenant-colonel Craigie et le major Brick dirigent une clinique

Le lieutenant-colonel Craigie, de l'École du C.R.D.C., à Camp Borden (Ont.), ainsi que le major J. C. Brick, de la Direction des Services dentaires, à Ottawa, ont dirigé une clinique sur l'instruction des officiers dentaires en vue de la survie nationale, au Congrès de l'Association dentaire canadienne qui eut lieu en septembre.

Réunion de l'Association du C.R.D.C.

Le brigadier K. M. Baird, directeur général des Services dentaires, a prononcé une allocution lors de l'ouverture de la réunion de l'Association du C.R.D.C., qui s'est tenue à Ottawa, le 29 septembre 1960.

Instruction de Milice à l'École du C.R.D.C.

Vingt-trois officiers de diverses unités de Milice, au Canada, ont suivi, du 19 au 23 septembre, le programme d'instruction à l'intention des officiers de Milice, à l'École du C.R.D.C., Camp Borden (Ont.).

Le cours a surtout porté sur l'organisation des services dentaires en cas de pertes en masse, ainsi que sur le rôle du dentiste dans les opérations de survie. L'instruction a également porté sur des sujets militaires d'ordre général, ainsi que sur les techniques et les installations du C.D.R.C.

Les officiers ci-après ont suivi ce cours. Ce sont:

Le colonel J. E. Merritt,
Directeur adjoint des Services dentaires (Milice).

Région militaire de l'Est,
Halifax (N.-É.).
De la 50e Unité des Services dentaires (Milice), Halifax (N.-É.):

Le major J. E. Hallett,
Le major N. J. Layton,
Le capitaine D. A. Eisner.
De la 51e Unité des Services dentaires (Milice), Saint-Jean (N.-B.):

Le lieutenant-colonel G. L. Ramsay
Le major H. F. Bonnell
Le major D. E. Williams
De la 53e Unité des Services dentaires (Milice), Montréal (P. Qué.):
Le major J.-M.-R. Gourdeau
De la 55e Unité des Services dentaires (Milice), London (Ont.):

Le major J. E. Peterson
Le capitaine R. S. Knight
Le capitaine J. G. Woods
De la 57e Unité des Services dentaires (Milice), Winnipeg (Man.):
Le lieutenant-colonel M. J. Snidal

Le major T. F. Gelley
De la 58e Unité des Services dentaires (Milice), Regina (Sask.):

Le major M. Medora
Le capitaine E. Eades
Le lieutenant J. Schwann
Le lieutenant P. Samuel
De la 59e Unité des Services dentaires (Milice), Calgary (Alb.):

Le lieutenant-colonel D. L. Thompson
De la 60e Unité des Services dentaires (Milice), Edmonton (Alb.):

Le capitaine A. G. Thompson
Le capitaine R. A. Yuodelis
De la 61e Unité des Services dentaires (Milice), Vancouver (C.-B.):

Le lieutenant-colonel F. K. Currie
Le major P.-L. Rondeau
Le major D. L. MacLeod

Allocation aux officiers dentaires

Le ministre associé de la Défense nationale, Monsieur Pierre Sévigny, a annoncé que les forces armées recevront des augmentations de solde à compter du 1^{er} octobre. En plus de l'augmentation générale accordée à tous les militaires, les officiers dentaires bénéficieront d'une allocation professionnelle qui s'échelonnera de \$60 jusqu'au maximum de \$175 par

mois, selon leur grade et la durée de leur service.

Le brigadier Baird assiste à diverses réunions

Le brigadier Baird, directeur général des Services dentaires, a assisté aux réunions du Bureau des Gouverneurs et au Congrès de l'Association dentaire canadienne, qui ont eu lieu à Ottawa, durant les derniers jours de septembre. Il était également présent au congrès annuel d'automne du Montreal Dental Club, qui s'est tenu du 19 au 21 octobre. Au cours de la dernière semaine d'octobre, il a participé à la période d'étude du vice-chef de l'état-major général sur les opérations de campagne au Collège d'état-major de l'Armée canadienne, à Kingston.

Le colonel Shillington au congrès de la A.D.A.

Le colonel G. B. Shillington, directeur-général adjoint des Services dentaires, s'est rendu à Los Angeles, où il a assisté à la réunion de l'American Denture Society et au congrès de l'American Dental Association, qui ont eu lieu les 14 et 15 octobre et du 17 au 20 octobre respectivement.

Le colonel Harris à l'honneur

"Son Excellence le gouverneur-général a fait savoir au ministre de la Défense nationale que Sa Majesté la Reine a daigné accorder au colonel H. L. Harris, C.D., D.D.S., directeur des Services dentaires de la Marine, le titre de dentiste honoraire de la Reine".—Gazette du Canada, le 22 octobre 1960.

Le colonel Harris est né à Freeport (N.-É.) en juin 1908. Il a reçu sa formation professionnelle aux universités Dalhousie et McGill, dont il a été un des diplômés en 1934. Après une année d'internat dans les hôpitaux de Montréal, il ouvrit son propre bureau à Kentville (N.-É.).

Il a servi, de 1925 à 1928, dans la 84^e Batterie de l'Artillerie royale canadienne (Milice active non permanente). En novembre 1939, il s'est enrôlé dans le C.D.C. et a été en service outre-mer, de septembre 1942 à octobre 1945, au Royaume-Uni et dans le nord-ouest de l'Europe. Depuis la guerre, le colonel Harris a exercé des fonctions importantes dans le C.R.D.C., entre autres, celles de sous-directeur des Services dentaires, de directeur-adjoint des Services dentaires, de commandant des 12^e et 13^e Compagnies dentaires, et depuis mai 1958, il est directeur des Services dentaires de la Marine, à la Direction des Services dentaires, à Ottawa.

Les capitaines Bossé et Headley donnent des conférences

Les capitaines J.-L. Bossé et R. H. Headley, tous deux de la 15^e Compagnie dentaire, ont donné des conférences avec démonstration d'instruments au congrès annuel d'automne du Montreal Dental Club.

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